

Final
ENVIRONMENTAL ASSESSMENT

**PROPOSED CONSTRUCTION OF OFFICER
TRAINING SCHOOL (OTS) PARADE FIELD**



Maxwell Air Force Base
Montgomery, Alabama

December 2004

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14. ABSTRACT The purpose of the proposed action is to construct a Officer Training School Parade Field to correct various inadequacies with the existing temporary parade field. In September 1993, the Officer Training School was relocated to Maxwell Air Force Base. Since that time, the number of classes and spectators has steadily increased. No permanent facilities for graduation ceremonies and parade activities exist at Maxwell. The no action alternative is continued use of the existing temporary parade field. Resources considered were air quality, noise, land use, geological resources, water resources, biological resources, transportation and circulation, cultural resources socioeconomics, environmental justice and protection of children, hazardous materials and wastes, and utilities. No significant impacts would result from the proposed action.					
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Acronyms and Abbreviations

42 ABW	42 nd Air Base Wing	NEPA	National Environmental Policy Act
AAFES	Army and Air Force Exchange Service	NFRAP	No Further Remedial Action Planned
ADEM	Alabama Department of Environmental Management	NO ₂	nitrogen dioxide
		NO _x	nitrogen oxides
ADCNR	Alabama Department of Conservation and Natural Resources	NPDES	National Pollution Discharge Elimination System
ADT	average daily traffic	NRHP	National Register of Historic Places
AETC	Air Education Training Command	O ₃	ozone
AFB	Air Force Base	O&M	operations and maintenance
AFI	Air Force Instruction	OTS	Officer Training School
AFPD	Air Force Policy Directive	OU	operable unit
ALAGASCO	Alabama Gas Corporation	PCE	Perchloroethylene
AQCR	Air Quality Control Region	PM ₁₀	particulate matter less than 10 microns in diameter
AVGAS	Aviation Grade Gasoline		
bgs	below ground surface	POL	petroleum, oils, and lubricants
BOT	Basic Officer Training	ppm	parts per million
BMP	Best Management Practices	PSD	Prevention of Significant Deterioration
CAA	Clean Air Act	RA	Remedial Action
CEQ	Council on Environmental Quality	RCRA	Resource Conservation and Recovery Act
CFR	Code of Federal Regulations	ROI	region of influence
CO	carbon monoxide	SEL	sound exposure level
COT	Commissioned Officer Training	SF	square foot
CRMP	Cultural Resource Management Plan	SIP	State Implementation Plan
CWA	Clean Water Act	SO ₂	sulfur dioxide
dB	decibel	USACE	U.S. Army Corps of Engineers
dBA	A-weighted decibel	USAF	U.S. Air Force
DoD	Department of Defense	USBC	U.S. Bureau of the Census
DRMO	Defense Reutilization Marketing Office	USEPA	U.S. Environmental Protection Agency
EA	environmental assessment	USFWS	U.S. Fish and Wildlife Service
EIAP	Environmental Impact Analysis Process	UST	Underground Storage Tank
EIS	environmental impact statement	VOC	volatile organic compound
EO	Executive Order		
°F	degrees Fahrenheit		
FICON	Federal Interagency Committee on Noise		
FONSI	Finding of No Significant Impact		
FY	fiscal year		
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning		
INRMP	Integrated Natural Resource Management Plan		
IRP	Installation Restoration Program		
Ldn	day-night average sound level		
MAFB	Maxwell Air Force Base		
MAP	Management Action Plan		
MGD	million gallons per day		
MILCON	military construction		
MSA	Metropolitan Statistical Area		
MSD/CEV	Maxwell Support Division Civil Engineering Environmental Section		
N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		

FINAL FINDING OF NO SIGNIFICANT IMPACT

CONSTRUCTION OF OTS PARADE FIELD AT MAXWELL AIR FORCE BASE, ALABAMA

Agency: United States Air Force

Purpose: The 42nd Air Base Wing at Maxwell Air Force Base (MAFB), Alabama, has initiated planning efforts to construct a new Officer Training School (OTS) Parade Field to correct various inadequacies with the existing temporary parade field. In September 1993, the Officer Training School was relocated to Maxwell Air Force Base. Since that time, the number of classes and spectators has steadily increased. No permanent facilities for graduation ceremonies and parade activities exist at Maxwell.

Proposed Action: The Proposed Action is to construct a new parade field at MAFB, Alabama, which would include bleacher construction, latrine/storage area, reviewing stand, bleacher canopy, bleacher mister system, tile emblem and access road. This would provide an adequate parade field for the larger OTS classes and spectators. The proposed area is the vacant area created by the demolition of Building 1449. The environmental impacts of the demolition of Building 1449 were evaluated in the Environmental Assessment for the construction of the new fuel cell maintenance hangars (Weston 2002). Since 1997, the Basic Officer Training classes and Commissioned Officer Training classes have had more than 500 students each and approximately 4,000 to 8,000 spectators. The proposed facilities will accommodate the expected increased classes and expected spectators through the year 2010 and beyond.

Summary of Findings: The Environmental Assessment (EA) attached provides an analysis of the potential environmental impacts resulting from implementing the proposed action. Evaluation of the Proposed Action indicates that proceeding with construction of the new parade ground would not significantly impact the natural and human environment. Specific resource areas are summarized below.

Air Quality: Implementation of the Proposed Action would result in minor and temporary increases in criteria pollutant emissions associated with proposed construction activities. However, no long-term increase in criteria pollutant emissions would occur. Fugitive dust emissions (particulate matter less than 10 microns in diameter [PM₁₀]) would be reduced by employing dust minimization practices. Implementation of the Proposed Action would not lead to an exceedance of *de minimis* thresholds and estimated criteria pollutant emissions would not violate the National Ambient Air Quality Standards (NAAQS). Determination of conformity to the Alabama State Implementation

Plan would not be required. Therefore, no significant impacts to air quality would occur as a result of implementation of the Proposed Action.

Noise: Under the Proposed Action, minor, temporary impacts to the noise environment in the vicinity of the proposed construction site would occur. The use of heavy equipment for site preparation and development (e.g., grading and back fill) could potentially generate noise levels above average ambient noise levels. However, noise levels would be typical of standard construction activities; would cease with the completion of proposed construction activities; and would only occur during normal working hours (i.e., between 7:00 A.M. and 5:00 P.M., Monday through Friday). The operation and use of the proposed facility would not generate significant noise levels and the noise environment at the installation would continue to be dominated by aircraft and vehicular traffic. Therefore, no significant impacts to the noise environment as a result of implementation of the Proposed Action would occur.

Land Use: Implementation of the Proposed Action would result in beneficial impacts to land use at MAFB. Use of the site selected for the Proposed Action is in accordance with the adopted Comprehensive Plan for MAFB and all project components will be designed and sited to be compatible with existing base land use. The Proposed Action would be located near the academic area, thereby maintaining the functional relationship among land use at the base.

Geological Resources: Construction activities associated with the Proposed Action would not significantly affect the geologic units underlying the installation as no unique geologic features or geologic hazards are present. Although ground disturbance would occur at the installation during construction, the construction would occur over previously disturbed surfaces. In addition, while proposed construction activities would require some minimal grading, no significant topographic features would be affected as a result of development associated with the Proposed Action. Soils would be disturbed during grading activities associated with proposed construction. However, implementation of Best Management Practices (BMPs) during construction would reduce impacts to soils associated with grading and clearing activities. In addition, standard erosion control measures (e.g., silt fencing, sediment traps, application of water sprays, and revegetation of disturbed soils) would be implemented to reduce potential impacts. Therefore, no significant impacts to geological resources would occur as a result of implementation of the Proposed Action.

Water Resources: Construction would have minor localized (i.e., site-specific) effects on surface water hydrology; however, BMPs would be incorporated during construction to minimize potential erosion, runoff, and sedimentation. The Proposed Action would potentially disturb greater than one acre of land at MAFB. Therefore, the contractor would contact the Alabama Department of Environmental Management (ADEM) Water Division and file a Notice of Registration for National Pollution Discharge Elimination System (NPDES) General Permit coverage. In addition, a Construction Best Management Practices Plan would be developed and implemented on-site for the duration of the construction period. Proposed construction activities would not occur

within a 100-year floodplain zone. Because the site of the Proposed Action is already nearly impervious, no appreciable net increase in stormwater discharge volumes and intensities are anticipated following completion of the Proposed Action. In fact, it should decrease or have a beneficial impact due to the increased grassed area. Site disturbance and construction associated with the Proposed Action are not anticipated to affect groundwater resources. Construction operations would not reach depths that could affect groundwater resources. Therefore, no significant impacts to water resources would occur as a result of implementation of the Proposed Action.

Biological Resources: Construction associated with the Proposed Action would not require vegetation removal (i.e., grass) in landscaped and previously disturbed areas. The proposed construction would not have significant impacts on vegetation. No Federally listed endangered, threatened, or proposed species, or their designated critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service, occur at or in the vicinity of the Proposed Action. Furthermore, the Alabama Department of Conservation and Natural Resources concludes that the closest sensitive species to the Proposed Action is recorded as occurring approximately 8.3 miles from the site of the Proposed Action. There are no delineated wetlands at or in the vicinity of the proposed project location. Therefore, there would be no impacts to biological resources as a result of implementation of the Proposed Action.

Transportation and Circulation: Implementation of the Proposed Action would result in a minor temporary increase in average daily traffic volumes on base and within the vicinity of the installation during construction activities. However, construction-related traffic would constitute a small percentage of traffic in the region and most vehicles would remain on site for the duration of construction activities. From an operational standpoint, the Proposed Action would result in beneficial impacts to vehicle circulation and provide a more direct route for spectators. However, the increase in traffic levels would not significantly affect safety and/or the capacity of roads at the installation and within the region. There would be no impacts to existing installation parking, as adequate parking would be accommodated on-site. Therefore, there would be no impacts to transportation and circulation as a result of the implementation of the Proposed Action.

Cultural Resources: The proposed construction would take place in an area previously disturbed by urban development. All regulations and policies relevant to the protection of cultural resources would be adhered to by the contractor during the construction process. However, no archaeological sites or architectural resources are known to exist at, or in the vicinity of, the Proposed Action. Therefore, no significant impacts to cultural resources would occur as a result of implementation of the Proposed Action.

Socioeconomics: There are no socioeconomic impacts associated with the Proposed Action.

Environmental Justice and Protection of Children: There are no significant impacts to children from health risks or safety risks that would occur as a result of implementing the Proposed Action.

Hazardous Materials and Wastes: The Proposed Action is not expected to have an impact on the management of hazardous materials at MAFB.

Review of documents describing the investigations and actions completed to date for the ST-011 site indicate that there is a solvent plume of Perchloroethylene (PCE) that covers a large area of the base in the surficial aquifer that is part of Operable Unit #1 (OU-1). Former Building 1449 is within the plume area. However, the groundwater level is approximately 27 feet below ground surface (bgs). There is one monitoring well located near the Proposed Action site that is expected to be closed as soon as eight quarters of sampling have been performed (MAFB 2004f).

Utilities: No daily limits are placed on MAFB regarding the consumption of electricity, natural gas, and potable water. In addition, regional facilities that would handle wastewater and solid waste from the Proposed Action have adequate capacity to accommodate anticipated minimal increases. Therefore, no significant impacts to utilities would occur as a result of implementation of the Proposed Action.

Finding of No Significant Impact (FONSI): After review of the EA prepared in accordance with the requirements of the National Environmental Policy Act (NEPA), Council on Environmental Policy Act, Council on Environmental Quality (CEQ) regulations, and 32 Code of Federal Regulations Part 989, as amended (U.S. Air Force Environmental Impact Analysis Process), I have determined that the proposed action would not have significant adverse impacts on the natural and human environment; therefore, an Environmental Impact Statement does not need to be prepared.



JOHN A. NEUBAUER
Colonel, USAF
Commander, 42d Air Base Wing



Date

COVER SHEET

ENVIRONMENTAL ASSESSMENT FOR

CONSTRUCTION OF OFFICER TRAINING SCHOOL (OTS) PARADE FIELD

Responsible Agency: Department of the Air Force

Contact for Further Information: Janet Lanier

Environmental Manager

MSD/CEV

Maxwell AFB, AL 36112

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Proposed Action: The Air Force proposes to construct an OTS Parade Field at Maxwell AFB, Montgomery County, Alabama.

Designation: Final Environmental Assessment

Abstract: The purpose of the proposed action is to construct a Officer Training School Parade Field to correct various inadequacies with the existing temporary parade field. In September 1993, the Officer Training School was relocated to Maxwell Air Force Base. Since that time, the number of classes and spectators has steadily increased. No permanent facilities for graduation ceremonies and parade activities exist at Maxwell. The no action alternative is continued use of the existing temporary parade field. Resources considered were air quality, noise, land use, geological resources, water resources, biological resources, transportation and circulation, cultural resources, socioeconomics, environmental justice and protection of children, hazardous materials and wastes, and utilities. No significant impacts would result from the proposed action.

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EXECUTIVE SUMMARY

The 42nd Air Base Wing at Maxwell Air Force Base (MAFB), Alabama has initiated planning efforts to construct a new Officer Training School (OTS) Parade Field to correct various inadequacies with the existing temporary parade field. In September 1993, the Officer Training School was relocated to Maxwell Air Force Base. Since that time, the number of classes and spectators has steadily increased. No permanent facilities for graduation ceremonies and parade activities exist at Maxwell. The Base has been using temporary facilities, the most current being located near the proposed site on the old aircraft taxiway

The Proposed Action is to construct a new parade field at MAFB, Alabama which would include bleacher construction, latrine/storage area, reviewing stand, bleacher canopy, bleacher mister system, tile emblem and access road. This would provide an adequate parade field for the larger OTS classes and spectators. The proposed area is the vacant area created by the demolition of Building 1449. The environmental impacts of the demolition of Building 1449 were evaluated in the EA for the construction of the new Hangers (Weston 2002). Since 1997, the Basic Officer Training classes and Commissioned Officer Training classes have had more than 500 students each and approximately 4,000 to 8,000 spectators. The proposed facilities will accommodate the expected increased classes and expected spectators through the year 2010 and beyond.

Implementation of the Proposed Action will provide adequate viewing facilities for graduation events with appropriate infrastructure.

This environmental assessment (EA) evaluates the significance of any potential environmental and human resource impacts associated with the implementation of the Proposed Action and No-Action Alternative at MAFB, Alabama. This EA describes existing conditions and potential impacts on environmental resources at the installation and within the region.

The EA evaluated 12 resource areas to identify potential environmental consequences: air quality, noise, land use, geological resources, water resources, biological resources, transportation and circulation, cultural resources, socioeconomics, environmental justice and protection of children, hazardous materials and wastes, and utilities. Impacts resulting from proposed construction activities would be temporary and minor; no long-term impacts would result from implementation of the Proposed Action at the installation. Direct, indirect, and cumulative impacts associated with the Proposed Action and No-Action Alternative at the installation would not be significant for all resource areas. Specific resource areas are summarized below.

Air Quality: Implementation of the Proposed Action would result in minor and temporary increases in criteria pollutant emissions associated with proposed construction

activities. However, no long-term increase in criteria pollutant emissions would occur. Fugitive dust emissions (particulate matter less than 10 microns in diameter [PM₁₀]) would be reduced by employing dust minimization practices. Implementation of the Proposed Action would not lead to an exceedance of *de minimis* thresholds and estimated criteria pollutant emissions would not violate the National Ambient Air Quality Standards (NAAQS). Determination of conformity to the Alabama State Implementation Plan would not be required. Therefore, no significant impacts to air quality would occur as a result of implementation of the Proposed Action.

Noise: Under the Proposed Action, minor, temporary impacts to the noise environment in the vicinity of the proposed construction site would occur. The use of heavy equipment for site preparation and development (e.g., grading and back fill) could potentially generate noise levels above average ambient noise levels. However, noise levels would be typical of standard construction activities; would cease with the completion of proposed construction activities; and would only occur during normal working hours (i.e., between 7:00 A.M. and 5:00 P.M., Monday through Friday). The operation and use of the proposed facility would not generate significant noise levels and the noise environment at the installation would continue to be dominated by aircraft and vehicular traffic. Therefore, no significant impacts to the noise environment as a result of implementation of the Proposed Action would occur.

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Utilities: No daily limits are placed on MAFB regarding the consumption of electricity, natural gas, and potable water. In addition, regional facilities that would handle wastewater and solid waste from the Proposed Action have adequate capacity to accommodate anticipated minimal increases. Therefore, no significant impacts to utilities would occur as a result of implementation of the Proposed Action.

FINAL ENVIRONMENTAL ASSESSMENT**PROPOSED CONSTRUCTION OF
OTS PARADE FIELD****AT****MAXWELL AIR FORCE BASE, ALABAMA****TABLE OF CONTENTS**

EXECUTIVE SUMMARY	ES-1
ACRONYMS AND ABBREVIATIONS.....	INSIDE FRONT COVER
1 PURPOSE AND NEED FOR THE PROPOSED ACTION.....	1-1
1.1 INTRODUCTION	1-1
1.2 LOCATION OF THE PROPOSED ACTIONS	1-2
1.3 DECISION TO BE MADE AND THE DECISION MAKER	1-2
1.4 SCOPE OF THE ENVIRONMENTAL REVIEW	1-2
1.5 APPLICABLE REGULATORY REQUIREMENTS	1-3
1.5.1 National Environmental Policy Act	1-3
1.5.2 Interagency and Intergovernmental Coordination for Environmental Planning.....	1-4
1.6 ORGANIZATION OF THE DOCUMENT.....	1-4
2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES.....	2-1
2.1 HISTORY OF THE FORMULATION OF ALTERNATIVES	2-1
2.2 DETAILED DESCRIPTION OF THE PROPOSED ACTION	2-1
2.3 DESCRIPTION OF THE NO-ACTION ALTERNATIVE	2-1
2.4 COMPARISON MATRIX F ENVIRONMENTAL EFFECTS OF PROPOSED ACTION AND NO-ACTION ALTERNATIVE	2-1
3 AFFECTED ENVIRONMENT	3-1
3.1 AIR QUALITY	3-1
3.1.1 Definition of Resource	3-1
3.1.2 Clean Air Act Amendments.....	3-1
3.1.3 Existing Conditions.....	3-2
3.1.3.1 Climate.....	3-2
3.1.3.2 Regional Setting.....	3-2
3.1.3.3 Air Emissions Inventory	3-2
3.2 NOISE	3-3
3.2.1 Definition of Resource	3-3
3.2.2 Existing Conditions.....	3-4

3.3	LAND USE.....	3-4
3.3.1	Definition of Resource.....	3-4
3.3.2	Existing Conditions.....	3-4
3.3.2.1	Regional and Local Land Use	3-4
3.3.2.2	Installation Land Use.....	3-4
3.4	GEOLOGICAL RESOURCES.....	3-10
3.4.1	Definition of Resource.....	3-10
3.4.2	Existing Conditions.....	3-10
3.4.2.1	Geological Resources	3-10
3.4.2.2	Soils	3-11
3.5	WATER RESOURCES.....	3-12
3.5.1	Definition of Resource.....	3-12
3.5.2	Existing Conditions.....	3-12
3.5.2.1	Surface Water	3-12
3.5.2.2	Groundwater	3-15
3.6	BIOLOGICAL RESOURCES.....	3-15
3.6.1	Definition of Resource.....	3-15
3.6.2	Existing Conditions.....	3-16
3.6.2.1	Vegetation and Forestry.....	3-16
3.6.2.2	Rare, Threatened, and Endangered Species.....	3-16
3.6.2.3	Wetlands	3-17
3.7	TRANSPORTATION AND CIRCULATION	3-17
3.7.1	Definition of Resource.....	3-17
3.7.2	Existing Conditions.....	3-17
3.7.2.1	Installation Circulation	3-17
3.8	CULTURAL RESOURCES	3-18
3.8.1	Definition of Resource.....	3-18
3.8.2	Existing Conditions.....	3-19
3.9	SOCIOECONOMICS.....	3-20
3.9.1	Definition of Resource.....	3-20
3.9.2	Existing Conditions.....	3-20
3.9.2.1	Population	3-20
3.9.2.2	Regional Job Growth and Unemployment	3-21
3.10	ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN	3-23
3.10.1	Definition of Resource.....	3-23
3.10.2	Existing Conditions.....	3-24
3.10.2.1	Race and Poverty Status	3-24
3.10.2.2	Protection of Children.....	3-26
3.11	HAZARDOUS MATERIALS AND WASTES	3-26
3.11.1	Definition of Resource.....	3-26
3.11.2	Existing Conditions.....	3-26
3.11.2.1	Installation Restoration Program	3-28

3.12	UTILITIES.....	3-30
3.12.1	Definition of Resource.....	3-30
3.12.2	Existing Conditions.....	3-30
3.12.2.1	Electricity and Natural Gas.....	3-30
3.12.2.2	Water	3-30
3.12.2.3	Wastewater	3-31
3.12.2.4	Solid Waste Management.....	3-31
4	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	AIR QUALITY	4-1
4.1.1	Approach to Analysis.....	4-1
4.1.2	Impacts.....	4-1
4.1.2.1	Proposed Action.....	4-1
4.1.2.2	No-Action Alternative	4-2
4.2	NOISE	4-2
4.2.1	Approach to Analysis.....	4-2
4.2.2	Impacts.....	4-2
4.2.2.1	Proposed Action.....	4-2
4.2.2.2	No-Action Alternative	4-3
4.3	LAND USE.....	4-3
4.3.1	Approach to Analysis.....	4-3
4.3.2	Impacts.....	4-3
4.3.2.1	Proposed Action.....	4-3
4.3.2.2	No-Action Alternative	4-3
4.4	GEOLOGICAL RESOURCES.....	4-4
4.4.1	Approach to Analysis.....	4-4
4.4.2	Impacts.....	4-4
4.4.2.1	Proposed Action.....	4-4
4.4.2.2	No-Action Alternative	4-4
4.5	WATER RESOURCES.....	4-4
4.5.1	Approach to Analysis.....	4-4
4.5.2	Impacts.....	4-5
4.5.2.1	Proposed Action.....	4-5
4.5.2.2	No-Action Alternative	4-5
4.6	BIOLOGICAL RESOURCES.....	4-6
4.6.1	Approach to Analysis.....	4-6
4.6.2	Impacts.....	4-6
4.6.2.1	Proposed Action.....	4-6
4.6.2.2	No-Action Alternative	4-7
4.7	TRANSPORTATION AND CIRCULATION	4-7
4.7.1	Approach to Analysis.....	4-7
4.7.2	Impacts.....	4-7

4.7.2.1	Proposed Action.....	4-7
4.7.2.2	No-Action Alternative	4-8
4.8	CULTURAL RESOURCES	4-8
4.8.1	Approach to Analysis.....	4-8
4.8.2	Impacts	4-8
4.8.2.1	Proposed Action.....	4-8
4.8.2.2	No-Action Alternative	4-9
4.9	SOCIOECONOMICS.....	4-9
4.9.1	Approach to Analysis.....	4-9
4.9.2	Impacts	4-9
4.9.2.1	Proposed Action.....	4-9
4.9.2.2	No-Action Alternative	4-9
4.10	ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN	4-9
4.10.1	Approach to Analysis.....	4-9
4.10.2	Impacts 4-10	
4.10.2.1	Proposed Action.....	4-10
4.10.2.2	No-Action Alternative	4-10
4.11	HAZARDOUS MATERIALS AND WASTES.....	4-10
4.11.1	Approach to Analysis.....	4-10
4.11.2	Impacts	4-10
4.11.2.1	Proposed Action.....	4-10
4.11.2.2	No-Action Alternative	4-11
4.12	UTILITIES.....	4-11
4.12.1	Approach to Analysis.....	4-11
4.12.2	Impacts	4-12
4.12.2.1	Proposed Action.....	4-12
4.12.2.2	No-Action Alternative	4-12
5	CUMULATIVE EFFECTS	5-1
5.1	DEFINITION OF CUMULATIVE EFFECTS	5-1
5.2	PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS	5-1
5.3	CUMULATIVE EFFECTS ANALYSIS	5-2
6	UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS.....	6-1
7	COMPATIBILITY OF THE PROPOSED ACTION AND ALTERNATIVE WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS.....	7-1
8	RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY	8-1

9	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	9-1
10	SPECIAL PROCEDURES.....	10-1
11	REFERENCES	11-1
12	LIST OF PREPARERS	12-1

LIST OF APPENDICES

A	PHOTOGRAPHS.....	A-1
B	IICEP CORRESPONDENCE.....	B-1

List of Figures

<u>Figure</u>	<u>Page</u>
Figure 1-1 Maxwell Air Force Base, Alabama	1-5
Figure 1-2 OTS Parade Ground Proposed Location Map.....	1-7
Figure 2-1 Details of the Proposed Action	2-3
Figure 3-1 Examples of Typical Sound Levels in the Environment.....	3-5
Figure 3-2 Land Use for L_{dn} -Based Noise Values	3-6
Figure 3-3 Land Use at MAFB, AL.....	3-7
Figure 3-4 Surface Water Features at Maxwell AFB, AL	3-13
Figure 3-5 IRP Sites in the Vicinity of the Proposed Action at Maxwell AFB, AL	3-33

List of Tables

<u>Table</u>	<u>Page</u>
Table 1-1 Projected Spectators	1-1
Table 2-1 Comparison of Potential Environmental Consequences	2-2
Table 3-1 Land Use Categories.....	3-9
Table 3-2 Soil Types Found at MAFB	3-11
Table 3-3 Dominant Tree Species at MAFB	3-16
Table 3-4 Population for the United States, State of Alabama, Montgomery County, and City of Montgomery, 1990-2000	3-20
Table 3-5 Distribution of Employment by Industrial Sector, City of Montgomery, 2000 Industrial Sector Number of Jobs Percent	3-22
Table 3-6 Top Ten Major Employers in the Montgomery Region Employer (Overall Rank).....	3-22
Table 3-7 Unemployment Rates for City of Montgomery, Montgomery County, and State of Alabama: 2000	3-23
Table 3-8 Population Distribution: Montgomery County, City of Montgomery, and State of Alabama, 2000	3-25
Table 3-9 Poverty Status: Montgomery County, State of Alabama, and United States, 1998	3-25
Table 3-10 Status of IRP Sites on MAFB.....	3-29
Table 3-11 Description of IRP sites in the Vicinity of the Proposed Action.....	3-30

1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

Maxwell Air Force Base is a United States Air Force Base (AFB) under the Air Education and Training Command (AETC). Maxwell AFB (MAFB) currently occupies approximately 2,475 acres of lands in Montgomery County in Central Alabama (Figure 1-1). MAFB is headquarters to Air University and the 42nd Air Base Wing (42 ABW). The 42 ABW's primary mission is to provide support to Air University, the Air Force's professional military education center.

The proposed project is needed to supply adequate facilities for graduation exercises and other parade activities. The parades have been conducted in various parking areas with inadequate room for parking and viewing by spectators. The classes, both the Basic Officers Training (BOT) and Commissioned Officer Training (COT), have increased and graduation ceremonies have been more difficult to hold on base. See Table 1-1. The proposed project will correct this deficiency in infrastructure.

Table 1-1 Projected Spectators

Fiscal Year	BOT Production	Expected Spectators (Per Parade)	Annual Expected Spectators	COT Production	Expected Spectators (Per Parade)	Annual Expected Spectators
1997	530	500-1,000	4,000-8,000	1,554		
1998	515	500-1,000	4,000-8,000	1,471		
1999	1,009	750-1,000	6,000-8,000	1,256		
2000	1,157	1,000-2,000	8,000-10,000	1,408		
2001	1,862	2,500-3,000	20,000-25,000	1,384		
2002	1,941	2,500-3,000	20,000-25,000	1,268		
2003	1,599	1,000-2,000	10,000-12,000	1,566	50-150	400-1,200
2004	1,000	1,000-2,000	10,000-12,000	1,402	50-150	400-1,200
2005	1,000	1,000-2,000	10,000-12,000	1,402	50-150	400-1,200
2006	900	1,000-2,000	10,000-12,000	1,408	50-150	400-1,200
2007	900	1,000-2,000	10,000-12,000	1,434	50-150	400-1,200
2008	900	1,000-2,000	10,000-12,000	1,404	50-150	400-1,200
2009	900	1,000-2,000	10,000-12,000	1,402	50-150	400-1,200
2010	1,000	1,000-2,000	10,000-12,000	1,402	50-150	400-1,200

1.2 LOCATION OF THE PROPOSED ACTIONS

The Proposed Action would take place at MAFB in Montgomery, Alabama. The site for the proposed construction is in the northwest portion of the installation within the Academic land use zone. The proposed site area has been made available by the demolition of Building 1449. It is bounded to the north by the Officer Training School (OTS) campus facilities, to the east by the OTS parking area, to the west by officer living quarters, and to the south by the existing taxiway and service ramp areas. Access to the site from off-base is through the Day Street Gate. See Figure 1-2 for proposed location.

1.3 DECISION TO BE MADE AND THE DECISION MAKER

The decision to be made with respect to the Proposed Action is whether Maxwell can continue to accommodate increasing graduation parades by use of temporary locations or establish a permanent adequate parade field. The purpose of this environmental assessment (EA) is to evaluate the potential impacts upon the natural and man-made environment, should the Proposed Action be implemented.

The decision to approve the Proposed Action begins at MAFB with the Wing Commander. Should the Wing Commander approve the action, it is then reviewed and approved or disapproved by Headquarters AETC.

1.4 SCOPE OF THE ENVIRONMENTAL REVIEW

The intent of this EA is to identify potential impacts associated with the Proposed Action and the No-Action Alternative. In doing so, this EA will evaluate the following resource categories:

- Air Quality
- Noise
- Land Use
- Geological Resources
- Water Resources
- Biological Resources
- Transportation and Circulation
- Cultural Resources
- Socioeconomics

- Environmental Justice and Protection of Children
- Hazardous Materials and Waste
- Utilities

This EA will also address cumulative impacts, and the compatibility of the Proposed Action and alternatives with the objectives of federal, regional, state, and local land use plans, policies, and controls. The relationship between the short-term use of the environment and its long-term productivity, as well as an assessment of any irreversible and irretrievable commitments of resources associated with the alternative, will also be evaluated.

1.5 APPLICABLE REGULATORY REQUIREMENTS

The Environmental Impact Analysis Process (EIAP) is the process by which Federal agencies facilitate compliance with environmental regulations. The primary legislation affecting these agencies' decision-making process is the National Environmental Policy Act (NEPA) of 1969. This act and other facets of the EIAP are described below.

1.5.1 National Environmental Policy Act

This act requires that Federal agencies consider potential environmental consequences of proposed actions in their decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed Federal decisions. The Council on Environmental Quality (CEQ) was established under NEPA for the purpose of implementing and overseeing Federal policies as they relate to this process. In 1978, the CEQ issued *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations [CFR] §1500-1508). These regulations specify that an EA be prepared to:

- briefly provide sufficient analysis and evidence for determining whether to prepare an environmental impact statement (EIS) or a Finding of No Significant Impact (FONSI);
- aid in an agency's compliance with NEPA when an EIS is deemed unnecessary; and
- facilitate EIS preparation when one is necessary.

Further, to comply with other relevant environmental requirements and to assess potential environmental impacts, the EIAP and the decision-making process involve a thorough examination of all environmental issues pertinent to the Proposed Action.

1.5.2 Interagency and Intergovernmental Coordination for Environmental Planning

NEPA and CEQ regulations require intergovernmental notifications prior to making any statement of potential environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the United States Air Force (USAF), notifies relevant federal, state, and local agencies and allows them to make known their environmental concerns specific to the Proposed Action. Comments from these entities are addressed and incorporated into the environmental impact analysis process. Those agencies that have previously concurred or do not have issues with development at Maxwell will also be listed in this section.

1.6 ORGANIZATION OF THE DOCUMENT

The purpose of this EA is to evaluate any potential impacts associated with the Proposed Action and the No-Action Alternative. Section 2 of this document provides a description of the Proposed Action and No-Action Alternative. Section 3 provides a baseline assessment of specific resource areas within the affected environment. These resource areas include specific elements of both the natural and man-made environment. Finally, Section 4 evaluates the potential impacts of both the Proposed Action and the No-Action Alternative on the resource areas described in Section 3.

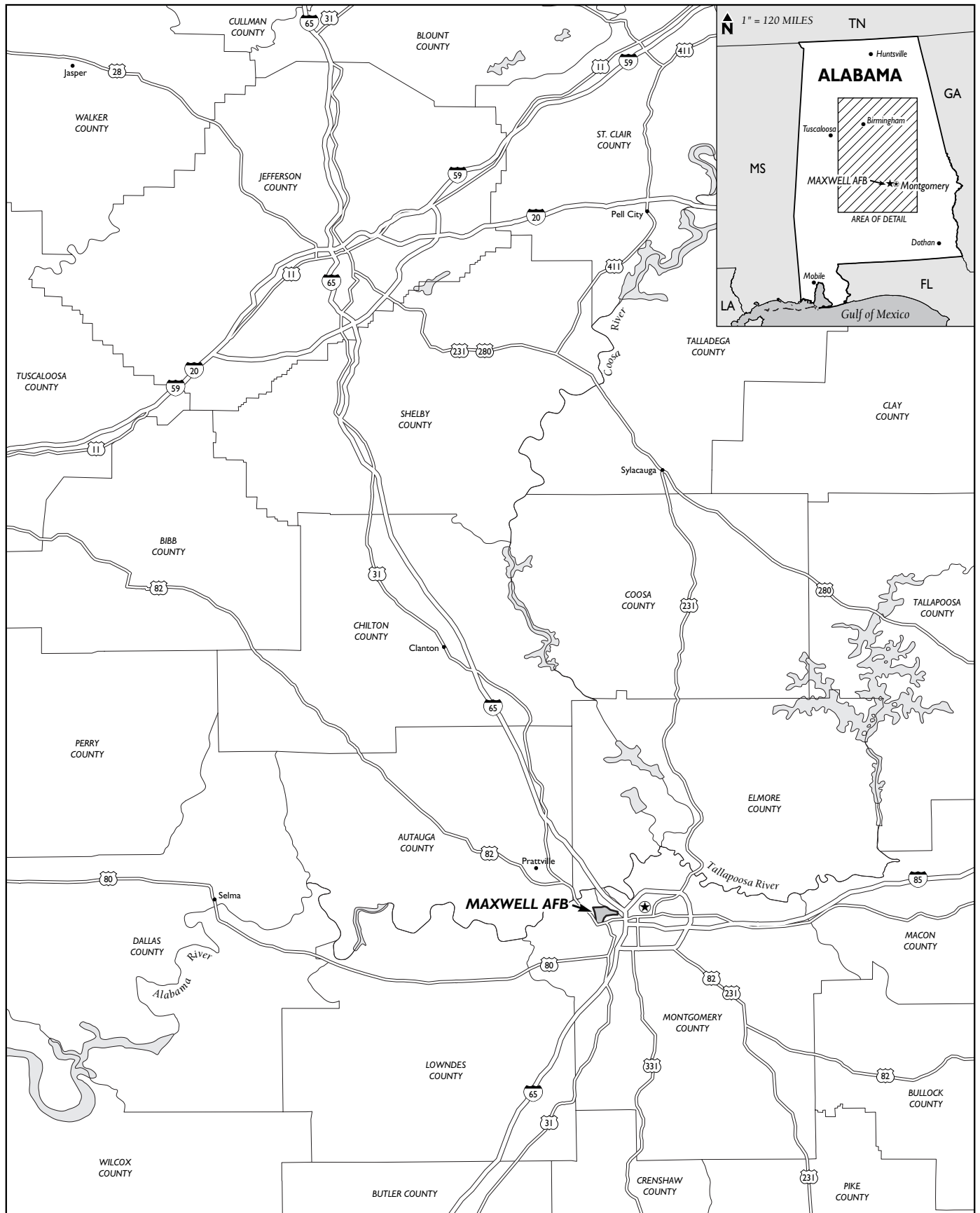


Figure 1-1
Maxwell Air Force Base, Alabama



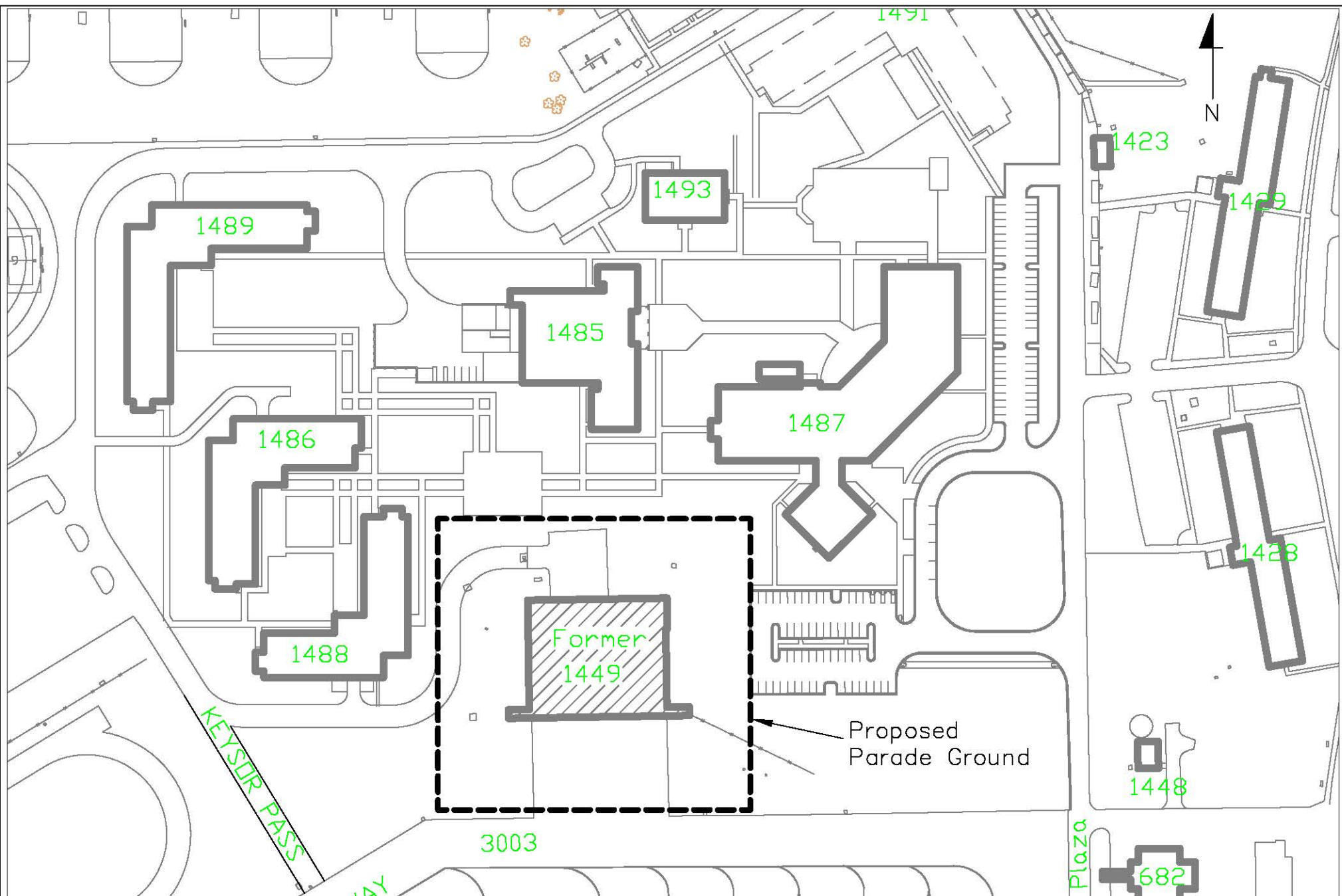


Figure 1-2
Proposed Parade Ground Location

2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 HISTORY OF THE FORMULATION OF ALTERNATIVES

Section 2 describes the Proposed Action and the No-Action Alternative. The decision has been made that the only available site near the academic area is the proposed project area. This area has been made available by the demolition of Building 1449.

2.2 DETAILED DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action is to construct a new Parade Field with associated infrastructure to accommodate graduation ceremonies and other parade activities. The proposed project will consist of the construction of four aluminum bleachers (two with handicap accessibility). Handicap accessible bleachers would accommodate a seating capacity of 507 with six wheelchair accessible spaces. Units without handicapped accessibility would accommodate a seating capacity of 556. In addition to the bleachers, a reviewing stand will be constructed to hold the reviewing party and distinguished visitors. A latrine and storage area will be constructed for spectator use and storage of equipment. A canopy for the bleachers will be constructed to provide protection from the elements for guests and distinguished visitors (see Figure 2-1). The bleacher canopy will be equipped with a Mister system (Sprinkler system) which will provide a fine mist to aid and provide comfort for viewing the graduation parade or review. An emblem recognizing the organization will be installed to create a more esthetically pleasing reviewing stand and increase the overall professional appearance of the parade field. An access road will be constructed to provide ore accessibility to the proposed field. All underground utilities will be installed in addition to adequate parking areas. Example pictures of a similar facility are located in Appendix A.

2.3 DESCRIPTION OF THE NO-ACTION ALTERNATIVE

The No-Action Alternative would be for Maxwell to continue to utilize the old abandoned taxiway or other parking areas for use as a parade field. This would continue to create traffic in restricted or incompatible land use areas and limit spectator comfort and participation. Graduation ceremonies would continue to be held at temporary inadequate facilities.

2.4 COMPARISON MATRIX OF ENVIRONMENTAL EFFECTS OF PROPOSED ACTION AND NO-ACTION ALTERNATIVE

Table 2-1 presents a comparison of the potential environmental effects, including cumulative effects, resulting from implementation of the Proposed Action or the No-Action Alternative. The environmental effects are described in Section 4. As shown in Table 2-1, the Proposed Action and the No-Action Alternative would have no appreciable effects on these resources.

Table 2-1 Comparison of Potential Environmental Consequences

<i>Resource Area</i>	<i>Proposed Action</i>	<i>No-Action</i>
Air Quality	○	○
Noise	○	○
Land Use	+	■
Geological Resources	○	○
Water Resources	○	○
Biological Resources	○	○
Transportation/Circulation	+	■
Cultural Resources	○	○
Socioeconomics	○	○
Environmental Justice	○	○
Hazardous Materials and Wastes	○	○
Utilities	○	○

Notes: ○ = No significant impact

■ = Adverse, but not significant impact

● = Significant impact

+ = Beneficial impact

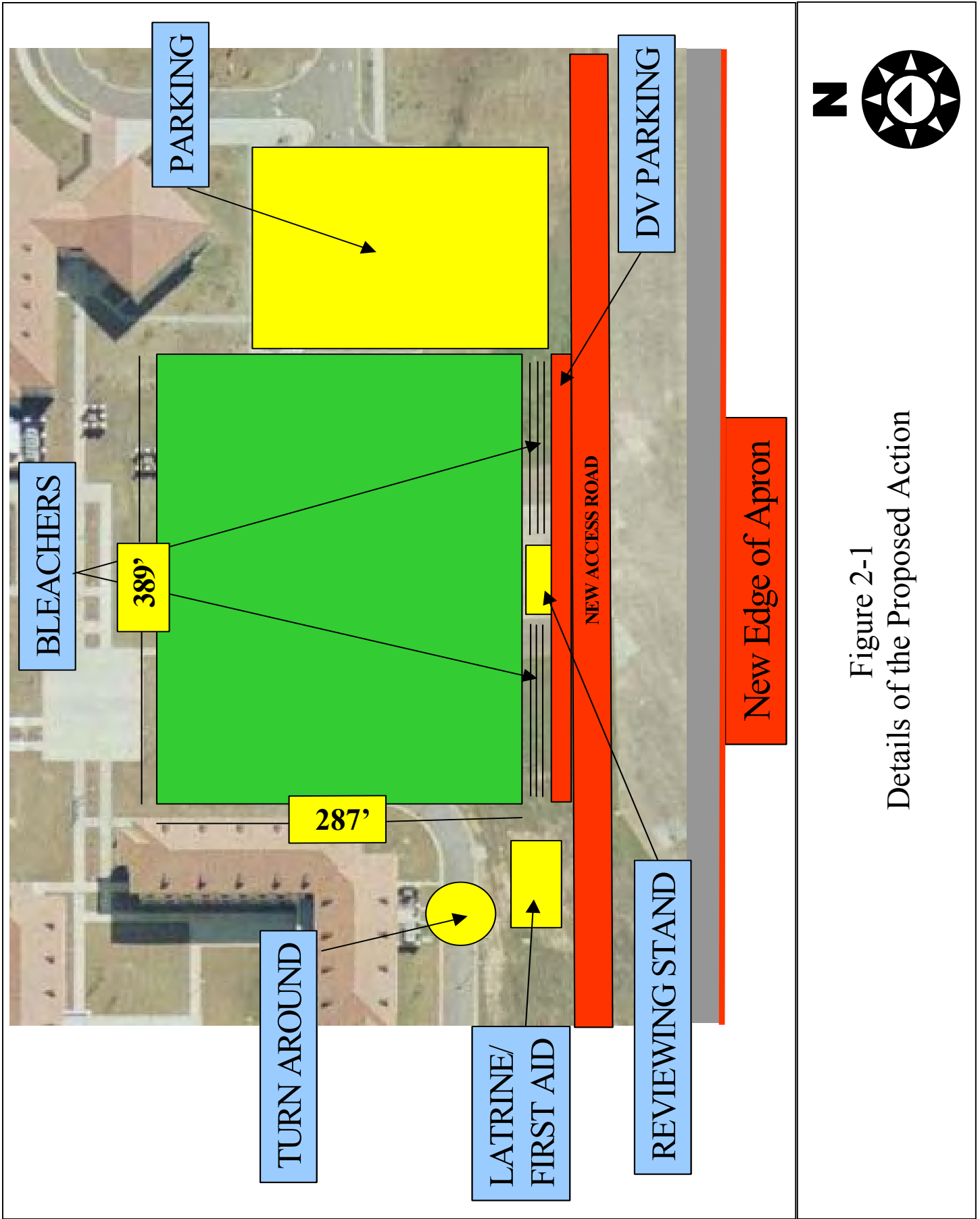


Figure 2-1
Details of the Proposed Action

3 AFFECTED ENVIRONMENT

This section describes relevant existing environmental conditions for resources potentially affected by the Proposed Action and No-Action Alternative described in Section 2. This description of the environment that may be affected provides a framework for understanding the potential direct, indirect, and cumulative effects of the Proposed Action and the No-Action alternative.

As directed by guidelines contained in NEPA, CEQ regulations, and Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, the description of the affected environment focuses only on those resource areas potentially subject to impacts and should be commensurate with the anticipated level of environmental impact.

This EA analyzes potential environmental effects for the following resource areas: air quality, noise, land use, geological resources, water resources, biological resources, transportation and circulation, cultural resources, socioeconomics, environmental justice and protection of children, hazardous materials and wastes, and utilities. The following subsections contain definitions of each resource, a description of the associated region of influence (ROI) for each resource, and existing conditions for each resource within the associated ROI.

3.1 AIR QUALITY

3.1.1 Definition of Resource

Air quality is defined as the ambient air concentrations of specific criteria pollutants determined by the USEPA to be of concern to the health and welfare of the general public. These criteria pollutants include ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), and lead (Pb). To establish limits on pollutant concentrations, the USEPA has created National Ambient Air Quality Standards (NAAQS) to identify the maximum allowable concentrations of criteria pollutants that are considered safe, with an additional adequate margin of safety, to protect human health and welfare. Depending on the type of pollutant, these maximum concentrations may not be exceeded at any time, or may not be exceeded more than once per year (USEPA 2002a).

3.1.2 Clean Air Act Amendments

Through the Clean Air Act (CAA) Amendments of 1990, the USEPA has required each state to prepare a State Implementation Plan (SIP), which describes how each state will achieve compliance with the NAAQS. The SIP is a compilation of goals, strategies, schedules, and enforcement actions that will help lead a state into compliance with the NAAQS. Alabama has adopted the NAAQS. Areas not in compliance with the NAAQS can be declared nonattainment areas by the USEPA, or the appropriate state or local agency. Areas in compliance with the NAAQS are defined as being in attainment.

Where insufficient air quality monitoring data exist to determine attainment status for an area, the region is designated as unclassified.

The criteria for nonattainment status varies by pollutant: 1) an area is in nonattainment for O₃ if the NAAQS have been exceeded more than three discontinuous times in three years; and 2) an area is in nonattainment for any other pollutant if the NAAQS have been exceeded more than once per year.

The CAA established certain statutory requirements for federal agencies with proposed federal activities to demonstrate conformity of the proposed activities with the SIP for attainment of the NAAQS. Under these rules, certain actions are exempt from conformity determinations, while others are presumed to be in conformity if total project emissions are below *de minimis* levels established under 40 CFR 93.153. *De minimis* levels (in tons per year) vary from pollutant to pollutant and are also subject to the severity of the nonattainment status.

3.1.3 Existing Conditions

3.1.3.1 Climate

MAFB is situated in a humid subtropical climate regime. The average annual high temperature is approximately 75 degrees Fahrenheit (°F), ranging between an average summer high of 91 °F and an average winter high of 60 °F. Winters in the region are temperate, with subfreezing temperatures and snow rarely occurring. The MAFB area (Montgomery) averages approximately 53 inches of rain a year, with the majority of rain falling in the late winter and spring months. Winds average approximately 6 miles per hour, typically from the east or west, depending upon the time of year.

3.1.3.2 Regional Setting

MAFB is located in Montgomery County, Alabama, within Air Quality Control Region (AQCR) 58 (The Columbus [GA] - Phenix City [AL] Interstate AQCR). All of Montgomery County is in attainment or unclassified for all of the NAAQS (USEPA 2002b). No Prevention of Significant Deterioration (PSD) Class I areas are located within the vicinity of MAFB (USEPA 2002c).

3.1.3.3 Air Emissions Inventory

The 2003 Air Emissions Inventory categorizes emissions from all stationary sources at MAFB. Primary stationary sources include emissions from boilers, furnaces, and small hot water heaters used for heating purposes and power production. MAFB is considered a minor source of emissions and is therefore not required to obtain a synthetic minor operating permit or a CAA Title V major source operating permit (Alabama Department of Environmental Management [ADEM] 2003).

3.2 NOISE

3.2.1 Definition of Resource

Noise can be defined as any sound that interferes with communication, is intense enough to damage hearing, or is otherwise annoying (Federal Interagency Committee on Noise [FICON] 1992). Human response to noise varies according to the type and characteristics of the noise source, distance between the source and the receptor, sensitivity of the receptor, and time of day.

The physical characteristics of sound include its level, frequency, and duration. Sound is commonly measured with instruments that record instantaneous sound levels in decibels (dB), which are based on a logarithmic scale (e.g., a 10 dB increase corresponds to a 100 percent increase in perceived sound). Under most conditions, a change of 5 dB is required for humans to perceive a change in the noise environment (USEPA 1973).

Sound measurements are often weighted to emphasize those frequencies heard especially well by the human ear. While the range of frequencies across which humans hear extends from 20 to 20,000 Hertz, the human ear is most sensitive to sounds in range of 1,000 and 8,000 Hertz, with sensitivity diminishing at lower and higher frequencies. As a result, A-weighted sound level measurements (dBA), which de-emphasize the high and low frequencies and emphasize the middle frequencies, are used to characterize sound levels that are heard especially well by the human ear. As seen in Figure 3-1, human hearing ranges from approximately 20 dBA (the threshold of hearing) to 120 dBA (the threshold of pain).

The sound exposure level (SEL) is a measure of the physical energy associated with a noise event that incorporates both the intensity and duration of the event. For example, the SEL associated with an aircraft overflight would be comprised of noise levels for the period of time when the aircraft is approaching (noise levels are increasing), the instant when the aircraft is directly overhead (noise levels are at a maximum), and the period of time when the aircraft is departing (noise levels are decreasing). As the SEL also considers the duration of a noise event, SEL values are typically higher than the maximum noise level measured for most noise events.

The day-night average sound level (L_{dn}) is the energy-averaged sound level of all SEL values within a 24-hour period, with a 10 dBA penalty assigned to noise events occurring between 10:00 P.M. and 7:00 A.M. to compensate for the annoyance associated with the occurrence of nighttime noise events. The L_{dn} is the preferred noise metric of the U.S. Department of Housing and Urban Development, U.S. Department of Transportation, Federal Aviation Administration, USEPA, and the Department of Defense (DoD).

Most people are exposed to sound levels of 50-55 dBA (L_{dn}) or higher on a daily basis. Studies conducted to determine noise impacts on various human activities have revealed that sound levels below 65 dBA (L_{dn}) do not significantly bother approximately 87

percent of the population (FICON 1992). Figure 3-2 provides the guidelines established by FICON that are commonly used to determine acceptable levels of noise exposure for various types of land use.

3.2.2 Existing Conditions

Noise sources at MAFB are primarily generated by aircraft operations, on- and off-base vehicle operations, and construction projects. Construction projects are considered short-term in their effects, and noise impacts are generally isolated to the site of the project and the immediate vicinity. MAFB has a 8,006-foot by 300-foot primary runway (15/33) and one 300-foot by 60-foot asphalt strip. The primary assigned aircraft include nine C-130's.

The nearest single family residence is approximately 1,800 feet from the proposed project site. Student dormitories are located adjacent to the site.

3.3 LAND USE

3.3.1 Definition of Resource

Land use comprises the natural conditions and/or human-modified activities occurring at a particular location. Human-modified land use categories include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, and other developed use areas. Management plans and zoning regulations determine the type and extent of land use allowable in specific areas and are often intended to protect specially designated or environmentally sensitive areas.

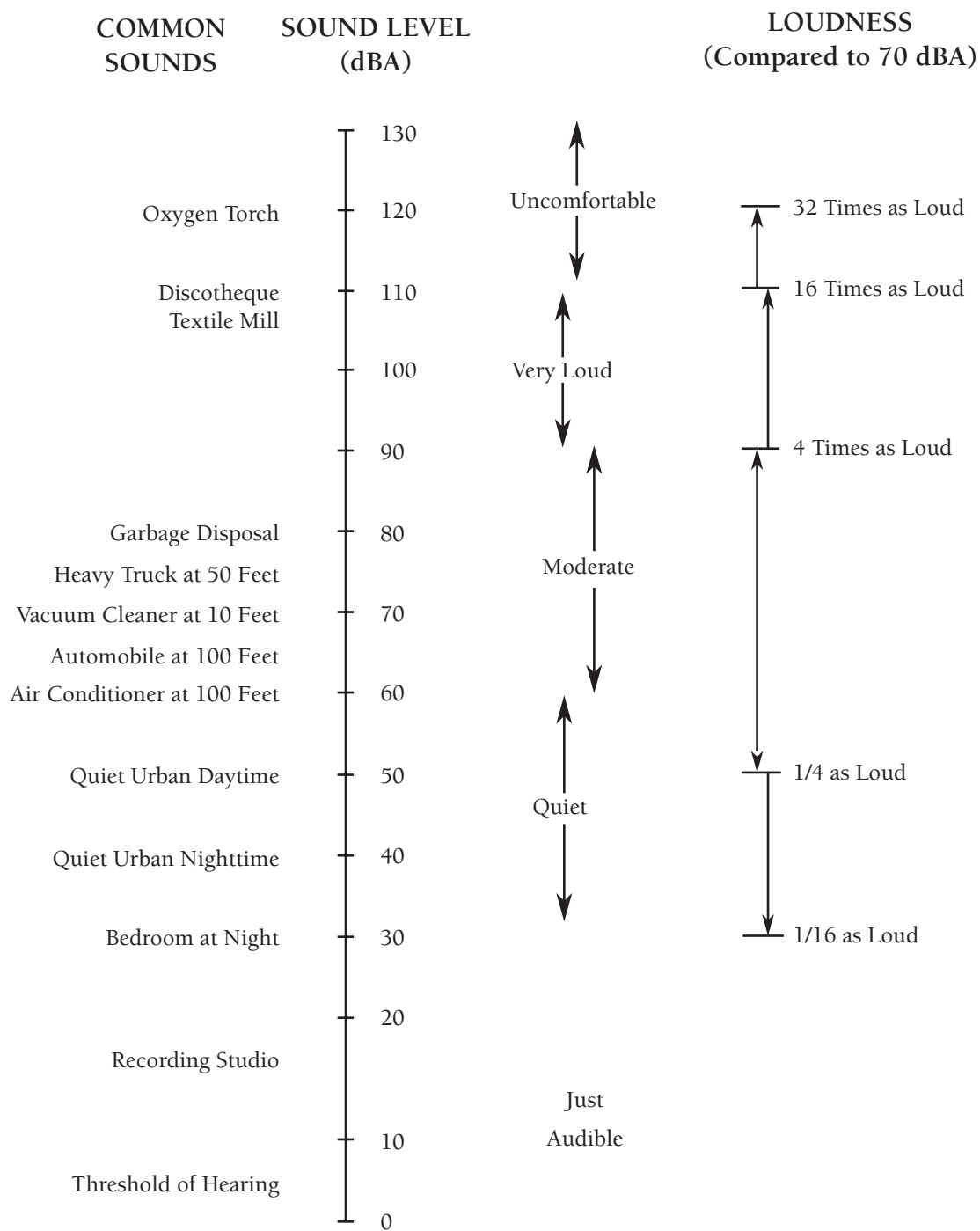
3.3.2 Existing Conditions

3.3.2.1 Regional and Local Land Use

MAFB is located in Montgomery County, Alabama, south of the foothills of the Appalachian Mountains. It is located in the northwest section of the City of Montgomery, approximately one quarter mile west of the downtown area. MAFB is bordered on the east and south by the City of Montgomery and on the northeast by the Alabama River. A public housing project and the central business district of Montgomery are located east of the installation. To the south and west of MAFB, the land uses are mixed residential and industrial. Land to the west of MAFB includes some development, agricultural areas, and floodplain areas. The urban development of the City of Montgomery includes a mix of residential, industrial, and strip commercial uses.

3.3.2.2 Installation Land Use

MAFB consists of approximately 2,475 acres of land, all of which are improved or developed in some manner. Occupied building, structures, pavements, and landscaped residences make up approximately 700 acres, and the runways, taxiways, and adjacent infield areas account for approximately 880 acres (MAFB 2000). Two golf courses, playgrounds, picnic areas and other recreational developments, and several ponds occupy the remaining land. Figure 3-3 shows the existing land use at MAFB.



Source: Harris 1979.

Figure 3-1
Examples of Typical Sound Levels
in the Environment

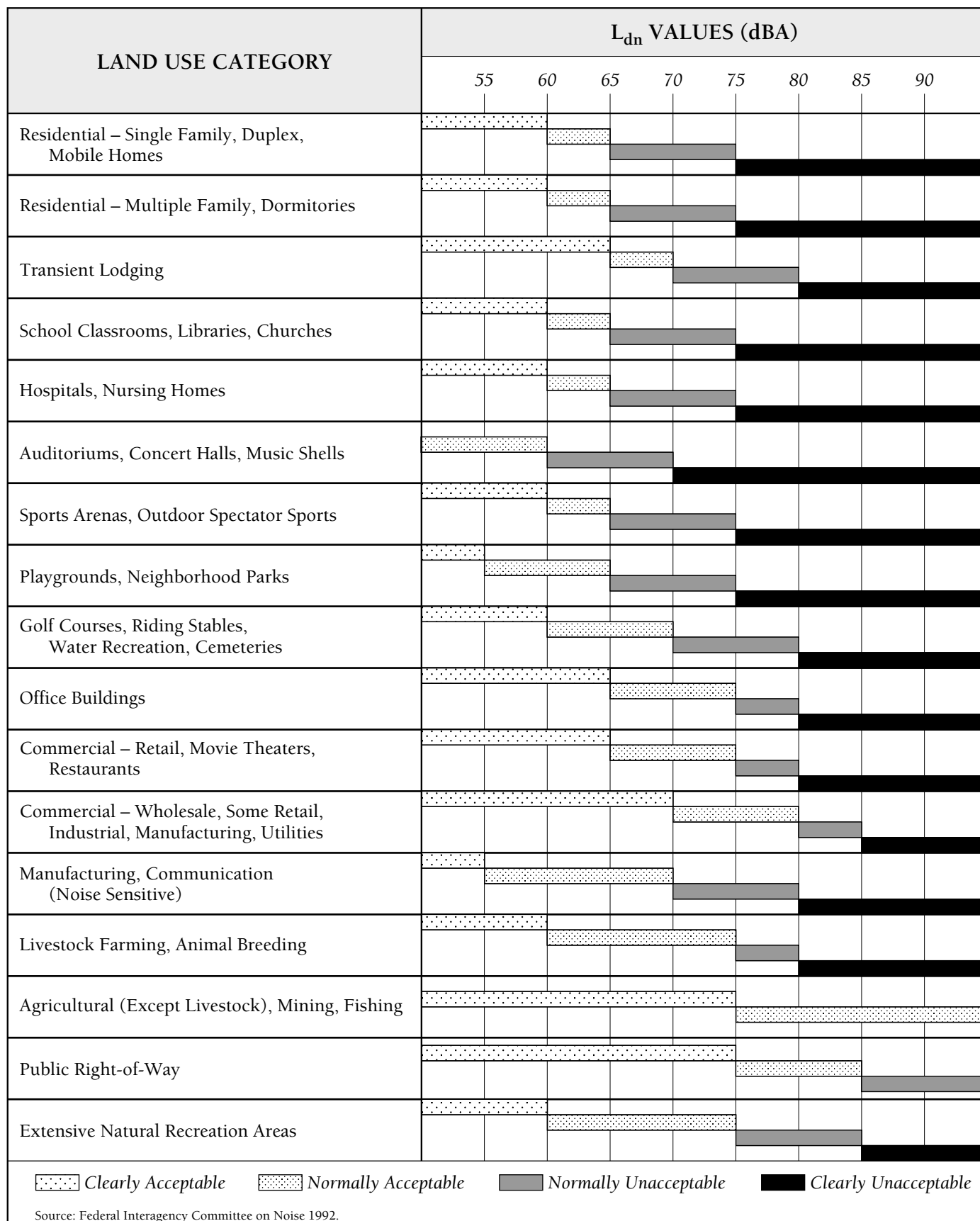
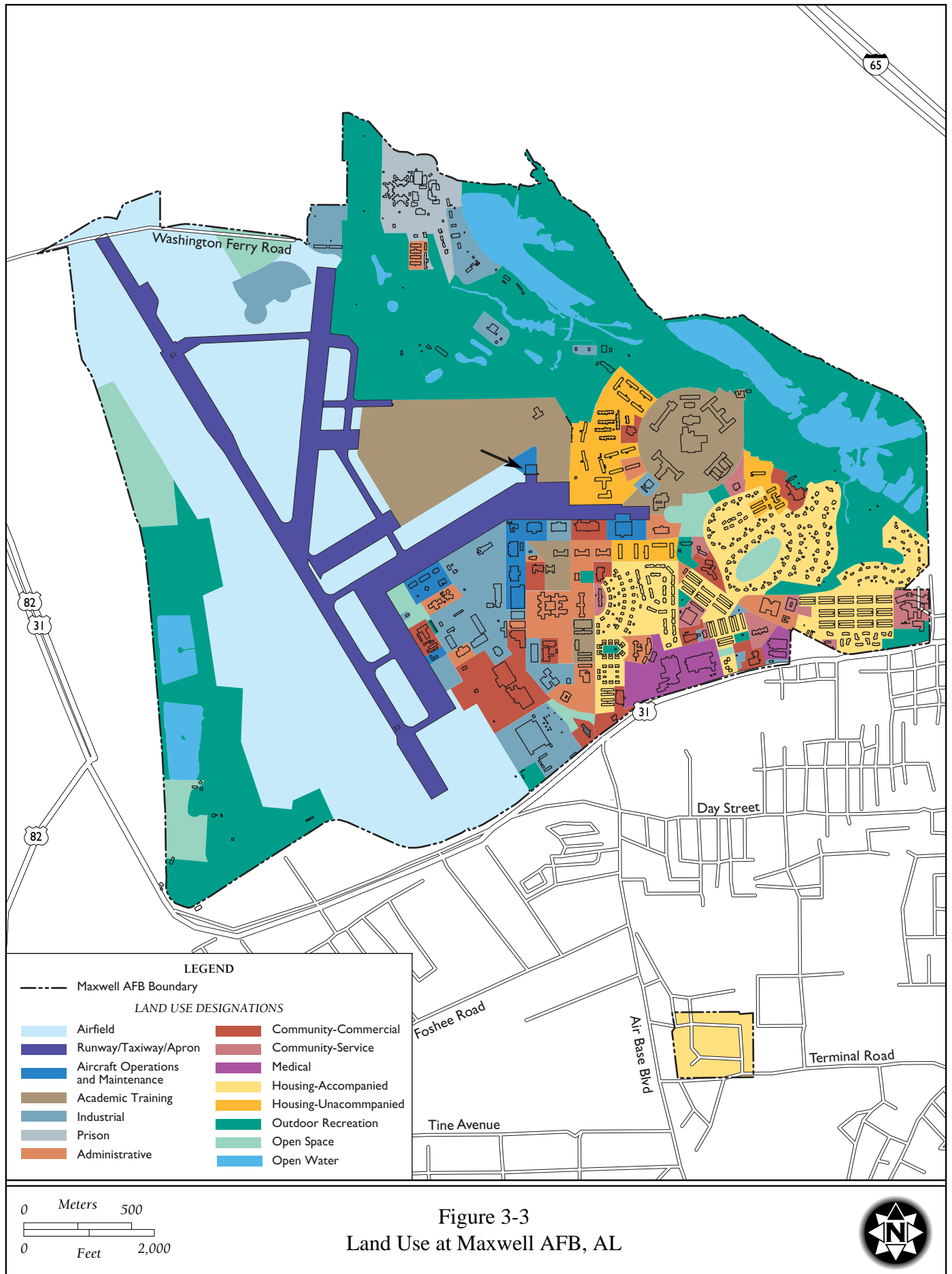


Figure 3-2
Recommended Land Use for
L_{dn}-Based Noise Values



The installation also owns a 28-acre housing area located one-mile south of the base, and Gunter Annex, a 372-acre annexed installation. The Maxwell Housing Annex contains 124 buildings consisting of 174 family housing units, and MAFB-Gunter Annex contains 218 buildings consisting of 2.2 million square feet.

Land Use Categories

Land use at MAFB can be divided into 15 categories, which are classified and defined below (Table 3-1).

Table 3-1 Land Use Categories

Land Use Category	Description
1. Airfield	Airfield criteria open space and unused land
2. Airfield	Aprons, runways, and taxiways
3. Aircraft Operations and Maintenance	Aircraft shops and air operations training
4. Industrial	Petroleum, Oils and Lubricants (POL), warehousing, civil engineering
5. Administrative	Non-aircraft or operations buildings
6. Academic	Facilities and structures used to support academic activities
7. Community Commercial	Retail, service clubs, and commissary
8. Community Service	Services Squadron, chapel, and library
9. Medical	Hospital and medical storage
10. Accompanied Housing	Military family housing
11. Unaccompanied Housing	Dormitories and transient quarters
12. Recreational	Golf course and sports fields
13. Open Space	Non-dedicated lands
14. Water	Rivers, lakes, streams, and ponds
15. Prison	Land and facilities dedicated to the on-base Federal prison camp

Source: MAFB 2000.

Land Use and the Noise Environment

Land use activities most sensitive to ambient noise are residential, public services, commercial, cultural, and recreational. Noise generated from aircraft and roadway traffic represents the greatest contribution to the overall noise environment at MAFB. Construction activities can also result in disruption to noise-sensitive receptors and land use areas (e.g., outdoor recreation participants or administrative personnel); however, construction activities tend to be temporary and associated noise can be reduced with special equipment and scheduling restrictions. The land immediately surrounding MAFB is not in conflict with the noise levels generated by installation activities.

3.4 GEOLOGICAL RESOURCES

3.4.1 Definition of Resource

Geological resources are defined as the geology, soils, and topography of a given area. The geology of an area includes bedrock materials, mineral deposits, and fossil remains. The principal geologic factors influencing stability of structures are soil stability and seismic properties. Soil, in general, refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the ability for the ground to support structures and facilities. Relative to development, soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use. Long-term geological, erosional, and depositional processes typically influence the topographic relief of an area. Topography incorporates the physiographic, or surface, features of an area and is usually described with respect to elevation, slope, aspect, and landforms.

3.4.2 Existing Conditions

3.4.2.1 Geological Resources

MAFB is located within the Alluvial Deltaic Plain of the upper Gulf Coastal Plain Physiographic region. Within the Coastal Plains Region of Montgomery County, the geologic units range in age from the Upper Cretaceous to the Holocene. This range is characterized by low rolling hills and shallow valleys. The topography of MAFB is generally level with elevations averaging 168 feet above mean sea level.

The regional surficial geology is dominated by Quaternary Terrace and Alluvial deposits consisting of coarse sands, gravels, silts, and clays deposited by the ancestral and current Alabama River. The thickness of the deposits generally range from 30 to 50 feet, but in some areas can be as thick as 80 feet. The thickness of the individual geologic units tends to follow a pattern that shows a gradual dip seaward at a shallow rate. Lithologic logs during drilling activities show that between the 10 and 30 foot depths, the deposits are composed of fine-to-medium grained silty sand with variable amounts of quartz pebbles and some clayey sand. At soil depths greater than 30 feet, the amount of quartz pebbles decreases and the deposits grade into mostly poorly graded sand with sand lenses (MAFB 2002a).

3.4.2.2 Soils

Six soil associations have been mapped at MAFB and are described below in Table 3-2. The majority of the base consists of the Amite-Cahaba association which are typically found on level to sloping uplands of high stream terraces. Soils range from very poor to well-drained and moderate to poor permeability. The Cahaba-Wickham-Roanoke association is found along the north and west base boundaries typically found on level to gently sloping lowlands of floodplains and low stream terraces. Soils range from poor to well-drained and subsoils have a seasonally high water table. The pH level in soils at MAFB average 5.2 pH. On average soils are found to be low in nitrogen, phosphate, potash, calcium, and magnesium.

Table 3-2 Soil Types Found at MAFB

Soil Type	Description
1. <i>Congaree silt loam (0-2% slopes)</i>	Contains some mica throughout profile. At 0 to 6 inches soil includes a dark grayish-brown silt loam with moderate, medium, granular structure. At 6 to 20 inches soils are dark yellowish-brown silty clay loam; friable when moist and slightly plastic when wet, and highly acidic.
2. <i>Terrace escarpments (15-25% slopes)</i>	Generally found between two stream terraces or within floodplains. Sandy and gravelly, slightly developed, not fertile. Most of the area is moderately to severely eroded, and numerous shallow to deep gullies have formed.
3. <i>Amite fine sandy loam (2-5% slopes)</i>	At 0 to 5 inches soil is dark reddish-brown fine sandy loam, weak crumb structure, very friable when moist and loose when dry, moderately acidic. High runoff and erosion potential.
4. <i>Roanoke silt loam (0-3% slopes)</i>	Very small amount of very fine sand and some mica. At 0 to 10 inches the soils are gray silt loam streaked with dark-brown organic stains; weak, medium, granular structures; friable; and highly acidic. Contains moderate amount of organic matter and moderate permeability.
5. <i>Wehadkee silt loam (0-2% slopes)</i>	At 0 to 6 inches soil is dark-gray silt loam with few, fine, faint mottles of dark brown; weak, medium, granular structure; friable; and highly acidic. Contains moderately high natural fertility and moderately high water holding capacity.
6. <i>Wickham fine sandy loam (0-2% slopes)</i>	At 0 to 6 inches soil is dark brown fine sandy loam; weak, fine, crumb structure; very friable; highly acidic. At 6 to 20 inches soil is yellow-red to red fine sandy clay; weak to moderate, fine, subangular blocky structure; firm when moist, sticky when wet, and hard when dry; highly acidic. Slow permeability rate and moderately high capacity for holding moisture. Contains moderately small amount of organic matter and moderately low natural fertility.

Source: MAFB 2000.

3.5 WATER RESOURCES

3.5.1 Definition of Resource

Water resources include both surface and subsurface water. Surface water includes all lakes, ponds, rivers, and streams within a defined area or watershed. Subsurface water, commonly referred to as groundwater, is typically found in certain areas known as aquifers. Aquifers are areas of mostly high porosity soil where water can be stored between soil particles and within soil pore spaces. Groundwater is typically recharged during precipitation events and is withdrawn for domestic, agricultural, and industrial purposes.

Due to dangers and damages associated with major flooding, legislation has been developed to limit construction within identified flood-prone zones. Specifically, development of areas within the identified 100-year floodplain zone (areas generally subject to a flood event that has a one percent chance of occurring in any given year) is typically limited to recreation and preservation activities. Flood hazards associated with the 100-year floodplain are also addressed in this section.

The Clean Water Act (CWA) of 1972 is the primary Federal law that protects the nation's waters, including lakes, rivers, aquifers, and coastal areas. The primary objective of the CWA is to restore and maintain the integrity of the nation's waters.

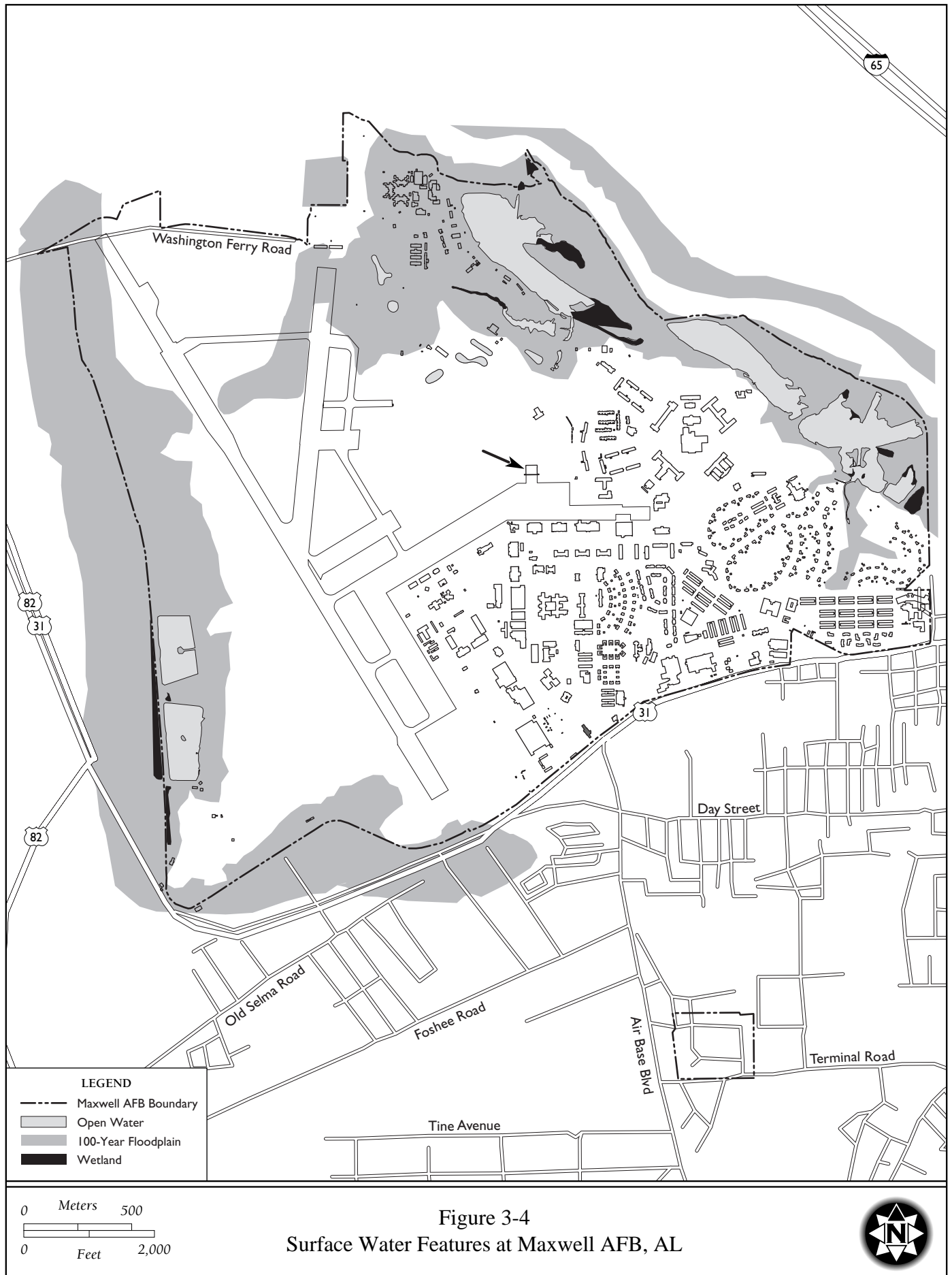
Water resources analyzed in this section include the surface and subsurface water resources at and surrounding MAFB. Wetlands are addressed in Section 3.6, Biological Resources.

3.5.2 Existing Conditions

3.5.2.1 Surface Water

MAFB is located on the western bank of the Alabama River. The surface drainage patterns on MAFB are generally from southwest to northeast towards the Alabama River. Prominent water features on the base include the lakes and drainage basins associated with the river flood plains, several small ponds on the golf course, and two small artificially constructed fishing lakes on the south side of the base (Figure 3-4).

Due to the predominance of impermeable surfaces located throughout MAFB, localized ponding occurs briefly during major rain events. A majority of this storm water runoff flows through the on-base drainage system and ponds prior to discharging to the Alabama River.



Floodplains

Approximately 30 percent of MAFB lies within an identified 100-year floodplain zone (MAFB 2000a). The floodplain elevation at MAFB is 161 to 162 feet above mean sea level (MAFB 2000a). The floodplain covers a large area in the northeast portion of the base along the Alabama River, and also extends along the south and west perimeters of the base (see Figure 3-4). The majority of the floodplain on-base is comprised of recreational land uses including a golf course.

3.5.2.2 Groundwater

The groundwater zone at MAFB ranges from depths of 4 to 40 feet below ground surface (bgs) (MAFB 2000a). The major aquifer in the region of MAFB is the Lower Eutaw which produces up to 450 gallons per minute. This aquifer is found at depths of 100 to 200 feet bgs. Groundwater at this aquifer is influenced by the Alabama River and is the source for recharging the wells that supply MAFB and the City of Montgomery with their potable water. MAFB has no production wells used for human consumption and receives its water supplies from the municipal water authority of Montgomery (MAFB 2000a).

3.6 BIOLOGICAL RESOURCES

3.6.1 Definition of Resource

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are referred to as vegetation and animal species are referred to as wildlife. Habitat can be defined as the resources and conditions present in an area that produces occupancy of a plant or animal. Although the existence and preservation of biological resources are intrinsically valuable, these resources also provide aesthetic, recreational, and socioeconomic values to society. This analysis focuses on species or vegetation types that are important to the function of the ecosystem, of special societal importance, or are protected under Federal or state law or statute. For purposes of this EA, these resources are divided into three major categories: vegetation; wetlands and sensitive habitats; and rare, threatened, and endangered species.

Vegetation includes all existing terrestrial plant communities with the exception of wetlands or threatened, endangered, or sensitive plant species. The affected environment for vegetation includes only those areas potentially subject to ground disturbance.

Wetlands are considered sensitive habitats and are subject to Federal regulatory authority under Section 404 of the CWA and Executive Order (EO) 11990, *Protection of Wetlands*. Jurisdictional wetlands are defined by the U.S. Army Corps of Engineers (USACE) as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987). Areas meeting the Federal wetland definition are under the jurisdiction of the USACE. Wetlands generally include swamps, marshes, bogs, and similar areas. (33 CFR

Part 328). Like vegetation, the affected environment for wetlands includes only those areas potentially subject to ground disturbance.

Rare, threatened, and endangered species are defined as those plant and animal species listed as rare, threatened, endangered, or proposed as such, by the U.S. Fish and Wildlife Service (USFWS). The Federal Endangered Species Act protects Federally listed threatened and endangered plant and animal species. Federal species of concern, formerly Category 2 candidate species, are not protected by law; however, these species could become listed and, therefore, protected at any time. Their consideration early in the planning process may avoid future conflicts that could otherwise occur.

3.6.2 Existing Conditions

3.6.2.1 Vegetation and Forestry

MAFB is situated within the Eutaw Belt subregion of the Central Pine Belt, or Southeastern Evergreen Forest. Vegetation in this area is bordered by the Oak-Pine Forest to the north. Due to previous agricultural uses and the urban development that has occurred at MAFB, virtually no original vegetation is present today. There are no natural wooded areas in existence at MAFB (MAFB 2000). Maintained grassy areas and improved land dominate the installation's groundcover. MAFB has an extensive urban forest where mature canopy trees occur around the Officer's housing and central administrative buildings. Urban plantings such as shrubbery and shade trees include species such as crape myrtle (*Lagerstroemia indica*), Bradford pear (*Pyrus calleryana*), and southern magnolia (*Magnolia grandiflora*). The dominant tree species at MAFB are listed in Table 3-3.

Table 3-3 Dominant Tree Species at MAFB

Common Name	Scientific Name
Slash Pine	<i>Pinus elliotti</i>
Live Oak	<i>Quercus virginiana</i>
Pecan	<i>Carya illinoensis</i>
Sweet gum	<i>Liquidambar styraciflua</i>
Pin Oak	<i>Quercus palustris</i>

Source: MAFB 2000

3.6.2.2 Rare, Threatened, and Endangered Species

According to the USFWS letter dated February 14, 2003 there are no Federally-listed endangered, threatened, or proposed species, or their designated Critical Habitats that occur at or near the vicinity of Maxwell Air Force Base or the proposed project. According to the Natural Heritage Section Database, no Federally-listed endangered,

threatened, or proposed species, or their designated Critical Habitats occur at or in the vicinity of the Proposed Action (Alabama Department of Conservation and Natural Resources [ADCNR] 2002). With respect to state-listed sensitive species, the ADCNR concludes that the closest sensitive species to the Proposed Action occur 8.3 miles from the proposed project site (ADCNR 2002).

3.6.2.3 Wetlands

In accordance with Air Force policy, installations are required to develop and maintain a current inventory of natural habitats as part of the Integrated Natural Resources Management Plan (INRMP). Wetlands are a significant natural habitat which should be included in this inventory. Alteration of wetlands is limited at military installations by EO 11990 and by the CWA.

MAFB is situated approximately 168 feet above mean sea level on primarily level terrain. According to the base wide jurisdictional wetland inventory conducted in April and June 1994, the installation contains 29 wetland areas, 6 streams and drainages, and 13 lakes and ponds for a total of 135.52 acres. Of that total, lakes and ponds make up 109.50 acres, streams and drainages make up 5.22 acres, and wetland areas make up 20.8 acres (MAFB 2000). The probability of wetlands is greatest along the low northern floodplain boundary of the base. All of the impounded waters, streams, and wetlands are located along the western, northern, and eastern periphery of MAFB and all wetlands occur within the 100-year floodplain. All of the wetlands and most of the lakes and ponds are classified as Palustrine habitats, which includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, and emergent mosses or lichens (MAFB 2000). There are no wetlands on or adjacent to the site of the Proposed Action.

3.7 TRANSPORTATION AND CIRCULATION

3.7.1 Definition of Resource

Transportation refers to the movement of vehicles on roadway networks. Primary roads, such as major interstates, are designed to move traffic and do not necessarily provide access to all adjacent areas. Secondary roads, commonly referred to as surface streets, are used to gain access to residential and commercial areas, hospitals, and schools. Roadway operating conditions are typically described in terms of average daily traffic (ADT) volumes.

3.7.2 Existing Conditions

3.7.2.1 Installation Circulation

MAFB is located approximately one quarter mile west of downtown Montgomery, Alabama. Access to the installation is from I-65 which runs into the main entrance at the Bell Street Gate. Direct access to the installation is possible through three gates which provide the primary circulation to the secondary and local routes of the installation. The primary east to west route is Maxwell Boulevard with the main entrance, Bell Street

Gate. The primary north to south routes are Kelly Street (Kelly Street Gate), Mitchell Street (Day Street Gate), and LeMay Plaza and Poplar Street to Chennault Circle.

The secondary and local roadway system at MAFB provide access from the primary routes to various installation facilities. Parking is generally adequate throughout the base except near the schools of Academic Circle due to the increase in student populations.

The proposed project site is accessed via the Day Street gate and is located on the northwest side of the base off of North LeMay Plaza. Traffic counts from November and December 2001 show that ADT counts at Bell Street (Main Gate) are approximately 2,020 per day while ADT counts for the Day Street and Kelly Street entrance gates are approximately 6,478 and 609 vehicles per day, respectively (MAFB 2002b).

Several changes to the existing transportation system have been proposed in the Maxwell Air Force Base General Plan.

3.8 CULTURAL RESOURCES

3.8.1 Definition of Resource

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources.

Archaeological resources are locations where human activity measurably altered the earth or left deposits of physical remains (e.g., tools, arrowheads, or bottles). “Prehistoric” refers to resources that predate the advent of written records in a region. These resources can range from a scatter composed of a few artifacts to village sites and rock art. “Historic” refers to resources that postdate the advent of written records in a region. Archaeological resources can include campsites, roads, fences, trails, dumps, battlegrounds, mines, and a variety of other features.

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for protection under existing cultural resource laws. However, more recent structures, such as Cold War era military buildings, may warrant protection if they have exceptional characteristics and the potential to be historically significant structures. Architectural resources must also possess integrity (i.e., its important historic features must be present and recognizable).

Traditional cultural resources can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that Native Americans or other groups consider essential for the continuance of traditional cultures.

Only significant cultural resources, known or unknown, warrant consideration with regard to adverse impacts resulting from a proposed action. To be considered significant, archaeological or architectural resources must meet one or more criteria as defined in 36 CFR 60.4 for inclusion in the National Register of Historic Places (NRHP).

Several Federal laws and regulations have been established to manage cultural resources, including the National Historic Preservation Act (1966), the Archaeological and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the Archaeological Resource Protection Act (1979), and the Native American Graves Protection and Repatriation Act (1990). In addition, coordination with Federally recognized Native American tribes must occur in accordance with EO 13084, *Consultation and Coordination with Indian Tribal Governments*.

On November 27, 1999, the DoD promulgated its Annotated American Indian and Alaska Native Policy, which emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. This Policy requires an assessment, through consultation, of the effect of proposed DoD actions that may have the potential to significantly affect protected tribal resource, tribal rights, and Indian lands before decisions are made by the respective services.

3.8.2 Existing Conditions

There are 152 buildings at MAFB listed on the NRHP, all of which were constructed during the inter war period of 1928 to 1939. In addition, one archaeological site was found eligible for listing on the NRHP during a 1997 archaeological survey. None of the sites listed or eligible for listing on the NRHP are located at or in the vicinity of the proposed project location.

A comprehensive Cultural Resources Management Plan (CRMP) has been prepared and provides focused guidance to land managers for compliance with the requisite cultural resource laws and regulations (MAFB 1999). The CRMP recognizes that activities associated with the ongoing mission of MAFB have the potential to be destructive to historic properties. Therefore, the following activities require prior consultation with the MAFB Historic Preservation Office to ensure compliance with the CRMP and cultural resource protection laws and regulations:

- all new construction;
- ground-disturbing activities such as excavations or earthmoving for training facilities, roads, trails, landing strips, etc;
- any activities that affect properties that are eligible or potentially eligible for the NRHP; and
- the disposal of Federally owned lands.

3.9 SOCIOECONOMICS

3.9.1 Definition of Resource

Socioeconomics comprise the basic attributes of population and economic activity within a particular area and typically encompass population, employment and income, and industrial/commercial growth. Impacts on these fundamental socioeconomic resources can also influence other components such as housing availability and public services provision.

Socioeconomic data is presented for the City of Montgomery, Montgomery County, the State of Alabama, and the U.S. to analyze baseline socioeconomic conditions in the context of regional, state, and national trends.

3.9.2 Existing Conditions

3.9.2.1 Population

Regional

The Montgomery Metropolitan Statistical Area (MSA) (composed of Montgomery, Autauga, and Elmore Counties) population increased over 40,000 from 1990 to 2000 (Table 3-4). This 13.9 percent gain was the third highest among the state's MSAs. Growth was strongest in the two suburban counties: Autauga's population increased 27.6 percent and Elmore's grew 33.9 percent. The population of Montgomery County gained 6.9 percent and the City of Montgomery experienced population growth of 7.7 percent. Both the city and county lagged behind the State of Alabama and the United States percent change over the last decade. The Montgomery MSA population is expected to increase over 100,000 to 433,292 between 2000 and 2025 (University of Alabama 2002).

Table 3-4 Population for the United States, State of Alabama, Montgomery County, and City of Montgomery, 1990-2000

Year	United States Population	Alabama Population	Montgomery County Population	City of Montgomery Population
1990	248,709,873	4,040,587	209,085	187,106
2000	281,421,906	4,447,100	223,510	201,568
% change '90-'00	13.2	10.1	6.9	7.7

Source: U.S. Bureau of the Census (USBC) 2002a, 2002b, 2002c, 2002d.

MAFB

The current employee personnel levels associated with MAFB total 12,700. (Montgomery Area Chamber of Commerce, 2004).

3.9.2.2 Regional Job Growth and Unemployment

The service-producing sectors accounted for more than 83 percent of jobs in the Montgomery area in 2001, the highest rate among the state's MSAs. The state, federal and local government employment is the largest employment sector in the Montgomery MSA. The City of Montgomery maintains a diverse manufacturing base, including: food/kindred products; transportation equipment; textile/apparel; machinery/equipment; printing/publishing; furniture/fixtures; software engineering; and plastics. The Montgomery area is a major distribution center for the southeast, supporting large companies such as Liz Claiborne, Russell Corporation, and Consolidated Stores. The Information Technology industry is a growing part of the Montgomery area economy, with 125 companies located in the capital city. The Montgomery MSA as well as the State of Alabama has experienced a steady decline in the manufacturing sector since 1995. For example, from July 1998 to July 1999, Alabama manufacturing firms lost 9,300 jobs. Sixty percent of the jobs were in the textile and apparel industries. However, manufacturing jobs were up by an average of 100 jobs for the first eight months of 2001 compared to 2000.

The Public Affairs Office at MAFB estimates that the total economic impact of the military and civilian employment associated with the U.S. military in the region (including contracted dollars) in FY 2001 was \$1.101 billion (MAFB 2001a).

Job Composition

The labor force level for the City of Montgomery was 95,961 in 2000 (U.S. Bureau of the Census [USBC] 2002g). The 2000 labor force for Montgomery County during the same year was 105,108. Sixty percent of these jobs were concentrated in the retail and services industries. Table 3-5 lists the distribution of employment by industrial sector.

According to the Montgomery Chamber of Commerce, there are approximately 12,000 businesses located in the Montgomery MSA. Table 3-6 lists the region's ten largest employers.

Table 3-5 Distribution of Employment by Industrial Sector, City of Montgomery, 2000 Industrial Sector Number of Jobs Percent

Industrial Sector	Number of Jobs	Percent
Agriculture	397	0.5
Construction	4,270	4.9
Manufacturing	6,957	8.0
Wholesale Trade	2,790	3.2
Retail Trade	10,225	11.8
Transportation and Utilities	5,839	6.7
Finance, Insurance, and Real Estate	7,018	8.1
Services	38,790	44.7
Government	10,255	12.1

Source: USBC 2002g.

Table 3-6 Top Ten Major Employers in the Montgomery Region Employer (Overall Rank)

Employer (Overall Rank)	Number of Employees
1. Maxwell-Gunter Air Force Base	12,700
2. State of Alabama	9,500
3. Baptist Health Systems	4,300
4. Montgomery Public Schools	3,700
5. City of Montgomery	2,500
6. ALFA Insurance Companies	2,170
7. Jackson Hospital and Clinic, Inc.	1,300
8. Rheem Water heaters	1,150
9. Baptist Medical Center South	980
10. Regions Bank	977

Source: Montgomery Area Chamber of Commerce, 2004.

Earnings

Average annual wages vary in Alabama due to factors such as the type of jobs available, the different industrial composition of the counties, the mix between seasonal and year-round work, and the extent of union activity. Many of the jobs in Montgomery County provide relatively high wages, resulting in an annual average wage of \$29,127 in 2000—ranked tenth highest among the 67 counties in the state. Alabama’s average annual wage was \$28,280 in 2000. The annual average wage for the Montgomery MSA was \$28,245 (U.S. Department of Commerce, Bureau of Economic Analysis 2001).

Per capita income is a broader measure of financial strength for the residents of a county, including resources such as dividends, rents, and government transfer payments, as well as wages. Montgomery County was ranked fourth out of 67 counties in Alabama with a per capita income level of \$27,313.

Unemployment

Review of unemployment rates for 2000 reveal that both the City of Montgomery and Montgomery County had unemployment rates above those of the State of Alabama (Table 3-7). In 2000, the annual average unemployment rate for Montgomery County was among the lowest of all counties in Alabama.

Table 3-7 Unemployment Rates for City of Montgomery, Montgomery County, and State of Alabama: 2000

Year	City of Montgomery	Montgomery County	State of Alabama
2000	4.2 percent	4.0 percent	3.7 percent

Source: USBC 2002g

3.10 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

3.10.1 Definition of Resource

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued to focus attention of Federal agencies on human health and environmental conditions in minority and low-income communities. In addition, EO 12898 aims to ensure that disproportionately high and adverse human health or environmental effects on these communities are identified and addressed.

In order to provide a thorough environmental justice evaluation, this section gives particular attention to the distribution of race and poverty status in areas potentially affected by implementation of the Proposed Action. For purposes of this analysis, minority and low-income populations are defined as follows:

- *Minority Populations:* Persons of Hispanic origin, Blacks, American Indians and Alaska Natives, Asians, Native Hawaiian and Other Pacific Islanders, as well as those individuals who categorized themselves as "two or more races" or "some other race" on the Census 2000 questionnaire.
- *Low-Income Populations:* Persons living below the poverty level, based on U.S. Census Bureau intercensal data reported in the March 1999 Current Population Survey for individual counties.

Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was issued in 1997. EO 13045 helps to ensure that Federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. This section identifies the locations where numbers of children may be disproportionately high (e.g., schools, childcare center, family housing) in areas potentially affected by implementation of the Proposed Action.

3.10.2 Existing Conditions

3.10.2.1 Race and Poverty Status

Population distribution data for Montgomery County, the City of Montgomery, and the State of Alabama are summarized in Table 3-8. The City of Montgomery has the highest percent minority population (52.9 percent), followed closely by Montgomery County at 51.7 percent and Alabama at 30.8 percent.

Table 3-9 compares populations of Montgomery County, the State of Alabama, and the United States that were below the poverty level in 1998, based on U.S. Census Bureau estimates. Data reveals that the percent of the population below the poverty level in Montgomery County (17.0 percent) was higher than the population below the poverty level statewide (15.7 percent). Both Montgomery County and the State of Alabama had higher levels than the general U.S. percentage of 13.3 percent.

Table 3-8 Population Distribution: Montgomery County, City of Montgomery, and State of Alabama, 2000

Race Category	Montgomery County	Percent of Total Population	City of Montgomery	Percent of Total Population	Alabama	Percent of Total Population
White	107,858	48.3	94,868	47.1	3,125,819	70.3
Black	108,146	48.4	99,631	49.4	1,150,076	25.9
American Indian and Alaskan Native	530	0.2	468	0.2	21,681	0.5
Asian	2,189	1.0	2,120	1.1	30,989	0.7
Native Hawaiian and Other Pacific Islander	67	0.0	66	0.0	1,059	0.0
Hispanic	2,665	1.2	2,484	1.2	75,830	1.7
Other ¹	2,055	0.9	1,931	1.0	41,709	2.0
Total	223,510	100	201,568	100	4,447,100	100

Source: USBC 2002e

¹ Census 2000 allowed respondents to define their race as either White, Black, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or Hispanic. In addition, respondents were allowed to report "Some other race" and were given the option of selecting two or more races (57 possible combinations). The "Other" category combines numbers for "Some other race" and all combinations of two or more races.

Table 3-9 Poverty Status: Montgomery County, State of Alabama, and United States, 1998

Montgomery County	Percent Total Population	Alabama	Percent of Total Population	United States	Percent of Total Population
35,840	17.0	681,788	15.7	35,573,858	13.3

Source: USBC 2002f

3.10.2.2 Protection of Children

As required by EO 13045, this analysis includes an assessment of the potential for children to be disproportionately exposed to environmental health risks and safety risks. According to the MAFB Comprehensive Plan, as well as a field survey, there are no facilities adjacent to, or in the immediate area of, the Proposed Action that would contain disproportionate populations of children.

3.11 HAZARDOUS MATERIALS AND WASTES

3.11.1 Definition of Resource

Hazardous materials and hazardous waste are defined and categorized by numerous environmental statutes as substances with physical properties of ignitability, corrosivity, reactivity, concentration, or toxicity that may cause or contribute significantly to an increase in mortality, serious irreversible illness, or incapacitating reversible illness, or pose a substantial threat to human health or the environment. To protect people and the environment from potentially harmful releases of hazardous substances, and pursuant to Federal and state laws, The Executive Branch (Executive Order 12088) and the Department of Defense (DoD Instruction 4150.7) have directed that all military departments develop and implement hazardous materials and hazardous waste management procedures to safeguard the environment.

The U.S. Air Force, through Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, establishes the policy that the Air Force is committed to environmentally sound practices including: cleaning up environmental damage from past activities; meeting all environmental standards applicable to present operations; planning future activities to minimize environmental impacts; managing responsibly any natural and cultural resources it holds in public trust; and eliminating pollution from its activities wherever possible. AFPD 32-70 and the Air Force Instructions (AFI) series 32-7000 incorporate the requirements of all Federal regulations, DoD Directives, and other AFIs for the management of hazardous materials and hazardous wastes.

3.11.2 Existing Conditions

The Environmental Section at MAFB (Maxwell Support Division Civil Engineering Environmental Section [MSD/CEV]) is responsible for the management of hazardous materials and wastes for the entire installation. A Hazardous Materials Program has been instituted to oversee, and to the maximum extent possible minimize, the procurement, use, and disposal of hazardous materials. MAFB qualifies as a large quantity generator of hazardous waste under the Resource Conservation and Recovery Act (RCRA). There is one Hazardous Waste Manager assigned to the Environmental Section and all matters concerning hazardous waste are managed through this individual. Disposal of hazardous waste is arranged through a Defense Reutilization Marketing Office (DRMO) service contract wherein licensed hazardous waste contractors remove and dispose of the waste, and DRMO maintains all hazardous waste documentation in accordance with pertinent

regulations. The Environmental Section has developed the following specific plans to manage both hazardous materials and hazardous wastes at MAFB.

Hazardous Materials. A user-friendly, simple-to-follow guide for ordering, using, and disposing of hazardous materials at MAFB is used by the Environmental Section. This guide, entitled *Hazmats Made Easy, (Maxwell AFB Hazardous Materials Management Guide)* (MAFB 2004a), incorporates the procedures and standards contained in AFI 32-7086 that govern management of hazardous materials throughout the U.S. Air Force. It applies to all Air Force personnel who authorize, procure, use or dispose of hazardous materials and to those who manage, monitor, or track any of those activities.

Hazardous Waste. The Environmental Section, pursuant to AFI 32-7042, maintains a *Hazardous Waste Management Plan, 42 ABW Plan 32-10* (MAFB 2003). This plan provides guidance to MAFB personnel on the proper handling, storage, and disposal of hazardous waste and implements the USEPA “cradle-to-grave” management controls for hazardous waste.

Asbestos. AFI 32-1052 mandates that installations develop an asbestos management plan to reduce the potential of personal exposure to potentially hazardous levels of airborne asbestos fibers and to maintain compliance with pertinent asbestos regulations. The Environmental Section maintains an *Asbestos Management and Operations Plan, 42 ABW 32-13* (MAFB 2002) to meet these requirements.

Lead-Based Paint. Pursuant to U.S. Air Force requirements, the Environmental Section maintains a *Lead-Based Paint Management Plan*, that provides guidance for identifying, evaluating, managing, and abating lead-based paint hazards (MAFB 2004b).

Pollution Prevention. AFI 32-7080 implements the regulatory requirements of several federal statutes for the reduction or prevention of pollution by mandating the development of installation Pollution Prevention Management Plans. In furtherance of this requirement, the Environmental Section has developed the *Pollution Prevention Management Action Plan, 42 ABW Plan 32-12* (MAFB 2004c) and the *Proposed Oil and Hazardous Materials Spill/Prevention and Response Plan, 42 ABW Plan 32-11* (MAFB 2004g).

Solid Waste Management. MAFB has implemented a Solid Waste Management Plan for the proper disposal of non-hazardous solid waste generation on the installation. There are no solid waste landfills in use at MAFB, so all non-hazardous solid waste is collected and disposed of by licensed private contractors at either the North Montgomery Municipal Landfill or a permitted private landfill. Yard waste is collected and transported to a compost facility on the installation. Recyclable materials are collected and transported by a private contractor to a commercial recycling center or DRMO (MAFB 2000).

The primary types of hazardous waste generated at MAFB include medical waste, adhesives, paint-related wastes, solvents, batteries, contaminated absorbents from spill cleanup, oil filters, and corrosive liquids.

3.11.2.1 Installation Restoration Program

This section describes activities in the vicinity of the Proposed Action that are part of the MAFB Installation Restoration Program (IRP). The status of environmental restoration and associated compliance programs at Maxwell is documented in the *Installation Restoration Program Management Action Plan*, or IRP MAP (MAFB 2002a). The IRP is managed by a Project Team led by the IRP Remedial Project Manager from the 42d Mission Support Group. The team includes representatives from EPA Region 4 and the ADEM, and the various parties strive to work together to address contamination generated from both on-base and off-base sources. The Project Team meets quarterly or on an as-needed basis.

The IRP requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites. According to the MAFB IRP MAP (MAFB 2002a), MAFB has 32 IRP sites. Table 3-10 lists the MAFB IRP sites and their current status.

Table 3-10 Status of IRP Sites on MAFB

Site ID No.	Description	Status
SS-004	Contaminated Groundwater (External Source).	ROD ¹
SS-007	Building 1037 Contaminated Groundwater	ROD
SS-008	Junk Yard Site	ROD
SS-011	Building 1063 Contaminated Groundwater	ROD
FT-002	Firing Training Area No. 2	ROD
LF-002	Landfill No. 2	ROD
LF-003	Landfill No. 3	ROD
LF-004	Landfill No. 4	ROD
LF-005	Landfill No. 5	ROD
LF-006	Landfill No. 6	ROD
SS-002	AVGAS ² Chlorinated Solvents	ROD
SS-003	Building 913 Contaminated Groundwater	ROD
SS-006	Building 1048 Contaminated Groundwater	ROD
SS-009	U.S. Highway 31 Gas Station Spill Site	ROD
SS-010	Old Pipeline Fuel Contamination	RA ³
ST-010	1100 Area Base Fuel Farm	RA
ST-011*	AVGAS System and Flightline Area	RA
DP-001	Electroplating Waste Disposal Area	NFRAP ⁴
FT-001	Firing Training Area No. 1	NFRAP
LF-001	Landfill No. 1	NFRAP
SD-001	Surface Drainage System	NFRAP
SS-001	Civil Engineering Drum Storage Area	NFRAP
SS-005	Building 1000 Soil Contamination	NFRAP
ST-001	Building 1037 USTs	NFRAP
ST-002	Building 1130 UST	NFRAP
ST-003	Building 913 UST	NFRAP
ST-004	Building 1048 UST	NFRAP
ST-005	Building 1112 UST	NFRAP
ST-006	Building 714 UST	NFRAP
ST-007	Building 1245 Asphalt Storage Tank	NFRAP
ST-008	Runway Lighting Auxiliary Generator UST	NFRAP
ST-009	Building 668 USTs	NFRAP

Source: MAFB 2002a.

Notes: ¹ ROD – Record of Decision² AVGAS—Aviation Grade Gasoline³ RA—Remedial Action⁴ NFRAP—No Further Remedial Action Planned

* IRP Sites of Interest to the Proposed Action

Only one of the IRP sites at MAFB is of interest in assessing potential impacts associated with the Proposed Action because of its proximity to the preferred construction site. It is ST-011 (Figure 3-5, Table 3-11).

Table 3-11 Description of IRP sties in the Vicinity of the Proposed Action

IRP Site No.	Description and Status
<ul style="list-style-type: none"> ST011 	<p>AVGAS System and Flightline Area. This site consists of a pipeline system that runs north from Building 1037 to the aircraft parking apron where it turns to the east and travels down the aircraft parking apron. The system was installed in approximately 1935 and was used to transfer AVGAS from six, 25,000-gallon USTs formerly located at Building 1037 to the filler stations. The system was used extensively during World War II. IN 1945, the filler stations were paved over. In 1987, a removal action was conducted at the site. Also, the pipeline was broken and 300 gallons of AVGAS was spilled. Since that time, several spills have occurred due to construction activities. In 1994 and 1996, groundwater and soil sampling analysis were conducted. In 1995, a Secondary Investigation was begun. There is a solvent plume of Perchloroethylene (PCE) in the surficial aquifer. There is one monitoring well located near the Proposed Action site that is expected to be closed as soon as eight quarters of sampling have been performed. The site is currently in the corrective action process as part of the base-wide OU-1 groundwater cleanup strategy.</p>

Source: MAFB 2002a, MAFB 2004f.

3.12 UTILITIES

3.12.1 Definition of Resource

Utilities consist of land, facilities, structures, energy, and services necessary to perform required operations. This assessment presents baseline conditions, including current consumption levels, for electricity and natural gas, potable water, wastewater, and solid waste management.

3.12.2 Existing Conditions

3.12.2.1 Electricity and Natural Gas

MAFB receives electricity from an Alabama Power Company substation located near the installation. MAFB is a “Priority 1” customer for the Alabama Power Company, which ensures that the installation would receive electrical service in the event that peak demands limit the ability of Alabama Power to supply service to all its customers. There are no daily limits imposed on MAFB for electrical consumption (MAFB 2004d).

Natural gas is provided to MAFB by the Alabama Gas Corporation (ALAGASCO). There are no daily limits imposed on MAFB for natural gas consumption (MAFB 2004d).

3.12.2.2 Water

MAFB obtains its potable water from the City of Montgomery, which obtains water from both groundwater and surface water sources. Three aquifers are accessed via well fields located in various locations in the city. The Tallapoosa River is the sole source of surface water used by the City of Montgomery for potable water. There are no daily limits imposed on MAFB for water consumption (MAFB 2004d).

3.12.2.3 Wastewater

The Towassa Wastewater Treatment Plant provides tertiary treatment to MAFB. The treatment plant is operated and maintained by the City of Montgomery. The plant has a capacity of 21 million gallons per day (MGD) and records an annual average of 10 MGD (City of Montgomery 2004a).

3.12.2.4 Solid Waste Management

Solid waste generated at MAFB is either recycled or disposed of in the North Montgomery City Landfill located west of MAFB. This 400-acre landfill began operation in 1980 and incorporates lined cells for garbage refuse and unlined cells for construction debris and other “dry” refuse. As of 2002, the landfill had an estimated 19 years of remaining operating life (City of Montgomery 2004b).

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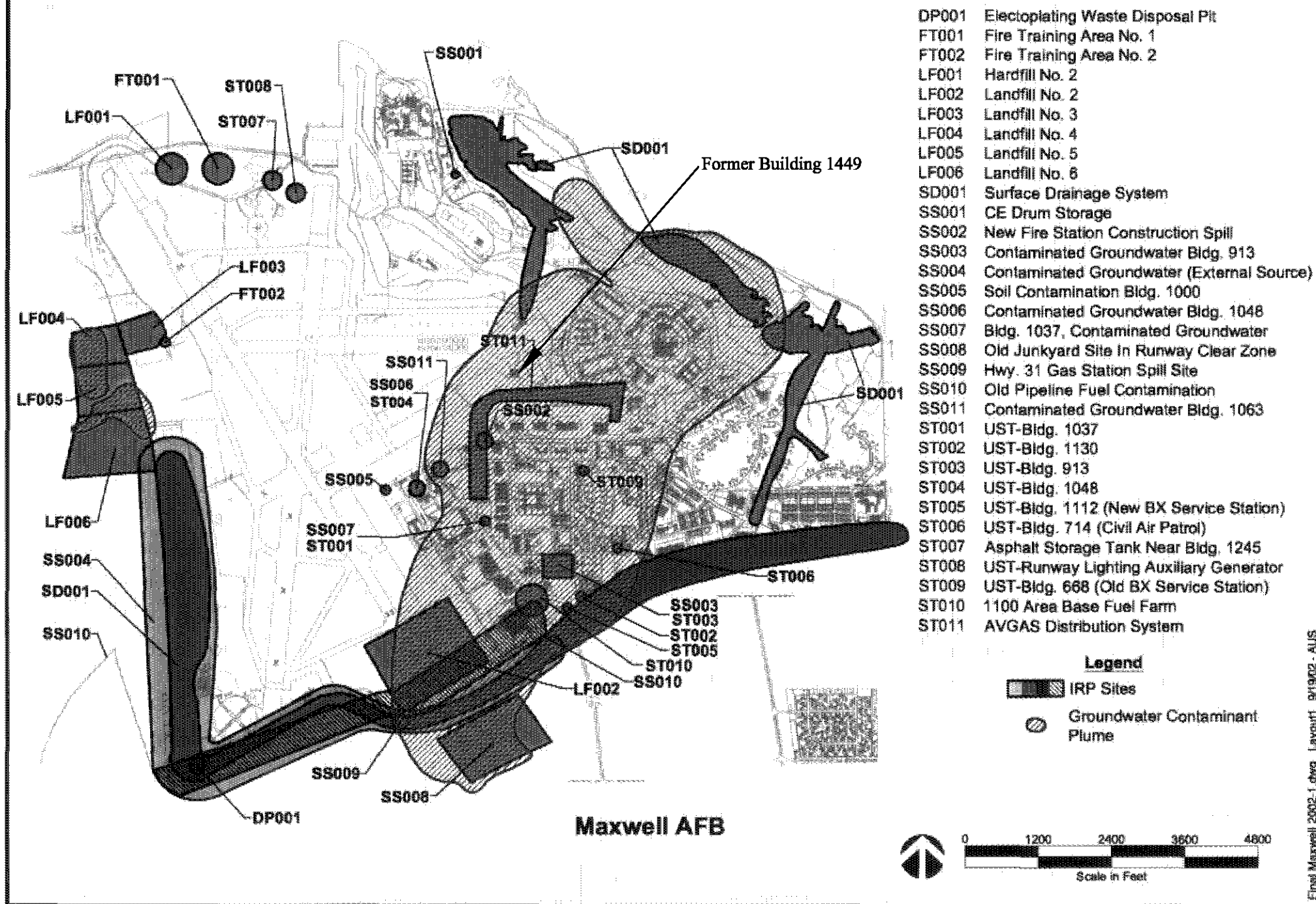


Figure 3-5

4 ENVIRONMENTAL CONSEQUENCES

Resource analysis presented in this section is based on an examination of the potential effects of the Proposed Action and the No-Action Alternative (described in Section 2) on existing environmental conditions (described in Section 3). The discussion of potential environmental consequences follows the sequence of existing environmental conditions, as presented in Section 3.

4.1 AIR QUALITY

4.1.1 Approach to Analysis

Criteria pollutant emissions resulting from proposed construction activities at the MAFB have been evaluated for the Proposed Action and No-Action Alternative. Air quality impacts would be significant if emissions associated with the Proposed Action or No-Action Alternative would: 1) increase ambient air pollution concentrations above the NAAQS; 2) contribute to an existing violation of the NAAQS; 3) interfere with, or delay timely attainment of the NAAQS; or 4) impair visibility within Federally mandated PSD Class I areas. Additionally, a conformity analysis would be required before initiating any action that might lead to nonconformance of a SIP or an exceedance of *de minimis* criteria pollutant thresholds, or that might contribute to a violation of the NAAQS.

4.1.2 Impacts

4.1.2.1 Proposed Action

Construction Emissions

Construction activities associated with the Proposed Action at MAFB would result in minor, temporary increases in criteria pollutant emissions. Specifically, emissions from construction and construction-related vehicles used during facility construction activities would increase. In addition, fugitive dust (i.e., PM₁₀) would increase as a result of surface disturbances (e.g., grading and vegetation removal) associated with construction activities. However, there would be no long-term increase in mobile or stationary source emissions at the installation due to the Proposed Action. Neither the duration nor frequency of mission activities would change.

Construction-related emissions as a result of implementation of the Proposed Action would temporarily impact local air quality. However, vehicle emissions generated by proposed construction activities would be temporary and short-term; no long-term increases in vehicle emissions would occur. Emissions associated with construction-related vehicles and equipment would be negligible, as most vehicles would be driven to and kept at the affected site until construction was complete.

Fugitive dust generated from proposed construction activities would temporarily impact local air quality. However, fugitive dust generated by proposed construction activities would be temporary and short-term; no long-term increases in fugitive dust would occur.

Additionally, increases in PM₁₀ would be moderated through Best Management Practices (BMPs), including watering of exposed soils, soil stockpiling, and soil stabilization, thereby limiting the total quantity of fugitive dust emitted during the construction period.

Implementation of the Proposed Action would not lead to an exceedance of *de minimis* thresholds and estimated criteria pollutant emissions would not violate the NAAQS; determination of conformity to the Alabama SIP is not required. In addition, implementation of the Proposed Action would not impair visibility within a PSD Class I area as no PSD Class I areas are located within the vicinity of the Proposed Action. Therefore, no significant impacts to air quality would occur as a result of implementation of the Proposed Action.

4.1.2.2 No-Action Alternative

Under the No-Action Alternative, proposed short-term construction activities for the parade field would not occur. Baseline air quality, as described in Section 3.1, would remain unchanged. Therefore, no significant impacts to air quality would occur as a result of implementation of the No-Action Alternative.

4.2 NOISE

4.2.1 Approach to Analysis

Noise impacts as a result of implementation of the Proposed Action at MAFB have been evaluated to the degree to which they would affect the baseline noise environment, as described in Section 3.2. Potential changes in the noise environment can be beneficial (i.e., if the number of sensitive noise receptors exposed to unacceptable noise levels is reduced); negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged); or adverse, (i.e., if they result in increased exposure to unacceptable noise levels).

4.2.2 Impacts

4.2.2.1 Proposed Action

Under the Proposed Action, minor, temporary impacts to the noise environment in the vicinity of the proposed construction site would occur. The use of heavy equipment for site preparation and development (e.g., grading and back fill) could potentially generate noise levels above average ambient noise levels. However, noise levels would be typical of standard construction activities; would cease with the completion of proposed construction activities; and would only occur during normal working hours (i.e., between 7:00 A.M. and 5:00 P.M., Monday through Friday). Furthermore, sound levels could be reduced through the use of equipment sound mufflers.

Generally, the average sound level produced by construction activities would be approximately 85 A-weighted decibels (dBA) at a distance of 50 feet (USEPA 1971). However, as the nearest noise-sensitive receptor (a single family residence) is located approximately 1,800 feet from the site of the Proposed Action, no appreciable noise

impacts to sensitive residential areas would occur. In addition, the operation and use of the proposed facility would not generate significant noise levels above existing levels and the noise environment in the vicinity of the Proposed Action would continue to be dominated by aircraft and vehicular traffic. Therefore, no significant impacts to the noise environment as a result of implementation of the Proposed Action would occur.

4.2.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction of the Parade Field would not occur. The baseline noise environment, as described in Section 3.2, would remain unchanged. Therefore, no significant impacts to noise would occur as a result of implementation of the No-Action Alternative.

4.3 LAND USE

4.3.1 Approach to Analysis

Significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a Proposed Action. In general, land use impacts would be significant if they would: 1) be inconsistent or in non-compliance with applicable land use plans or policies; 2) preclude the viability of an existing land use activity; 3) preclude continued use or occupation of an area; or 4) be incompatible with adjacent or vicinity land use to the extent that public health or safety is threatened.

4.3.2 Impacts

4.3.2.1 Proposed Action

Implementation of the Proposed Action would result in beneficial impacts to land use at MAFB. Use of the site selected for the Proposed Action is in accordance with the adopted Comprehensive Plan for MAFB and all project components will be designed and sited to be compatible with existing base land use. The Proposed Action would be centrally located within the Academic land use zone, thereby maintaining the functional relationship among community facilities. Furthermore, the site would be easily accessible to all academic areas. The site is also accessible to military personnel residing in the civilian community. As described in Section 4.2.2.1, Noise, construction noise levels would be similar to typical construction noise, would last only the duration of construction activities, and could be reduced through the use of equipment sound mufflers and restricted hours of construction. Therefore, impacts to land use would not be significant.

4.3.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction of a Parade Field would not occur. Baseline land use, as described in Section 3.3, would remain unchanged. Therefore, no significant impacts to land use would occur as a result of implementation of the No-Action Alternative.

4.4 GEOLOGICAL RESOURCES

4.4.1 Approach to Analysis

The protection of unique geologic features, minimization of soil erosion, and the location of facilities in relation to potential geologic hazards are considered when evaluating impacts of a proposed action. Generally, impacts on geological resources are not significant if proper construction techniques and erosion control measures are implemented to minimize or mitigate short and long-term disturbance to soils and to overcome limitations imposed by earth resources.

4.4.2 Impacts

4.4.2.1 Proposed Action

Geological Resources

Construction activities associated with the Proposed Action would not significantly affect the geologic units underlying the installation as no unique geologic features or geologic hazards are present. Although ground disturbance would occur at the installation during construction, the construction would occur over previously disturbed surfaces. In addition, while proposed construction activities would require some minimal grading, no significant topographic features would be affected as a result of development associated with the Proposed Action. Therefore, no significant impacts to geological resources would occur as a result of implementation of the Proposed Action.

Soils

Soils would be disturbed during grading activities associated with proposed construction. However, implementation of BMPs during construction would reduce impacts to soils associated with grading and clearing activities. In addition, standard erosion control measures (e.g., silt fencing, sediment traps, application of water sprays, and revegetation of disturbed soils) would be implemented to reduce potential impacts related to these characteristics. Therefore, no significant impacts to soils would occur as a result of implementation of the Proposed Action.

4.4.2.2 No-Action Alternative

Under the No-Action Alternative, proposed short-term construction activities would not occur. There would be no construction or ground-disturbing activities. As a result, baseline conditions for geological resources and soils would remain unchanged. Therefore, no significant impacts to geological resources or soils would occur as a result of implementation of the No-Action Alternative.

4.5 WATER RESOURCES

4.5.1 Approach to Analysis

The analysis of water resources includes all surface and groundwater resources at the installation as well as watershed areas affected by existing and potential runoff.

Significant impacts to water resources could potentially occur if the Proposed Action resulted in changes to water quality or supply; threatened or damaged unique hydrologic characteristics; endangered public health by creating or worsening health hazards; or violated established laws or regulations. Impacts of flood hazards on proposed actions would be significant if such actions are proposed in areas with high probabilities of flooding. Potential impacts to wetlands are discussed in Section 4.6, Biological Resources.

4.5.2 Impacts

4.5.2.1 Proposed Action

Surface Water

Under the Proposed Action, proposed construction activities would result in a temporary increase in total suspended particulate matter (i.e. sedimentation) to nearby surface water. To minimize potential impacts, BMPs (see Section 4.4.2.1, Soils, above) would be implemented during the construction period.

The Proposed Action would disturb more than one acre of land at MAFB. Therefore, the contractor would contact the ADEM Water Division and file a Notice of Registration for National Pollution Discharge Elimination System (NPDES) General Permit coverage. In addition, a Construction Best Management Practices Plan would be developed and implemented on-site for the duration of the construction period. Construction would have minor localized (i.e., site-specific) effects on surface water hydrology; however, BMPs would be incorporated during construction to minimize potential erosion, runoff, and sedimentation. Proposed construction activities would not occur within a 100-year floodplain zone.

Because the site of the Proposed Action is already nearly impervious, no appreciable net increase in stormwater discharge volumes and intensities are anticipated following completion of the Proposed Action. As a portion of it will be grassed, it is expected to decrease stormwater runoff. Therefore, no significant impacts would occur to surface water resources as a result of implementation of the Proposed Action.

Groundwater

Site disturbance and construction associated with the Proposed Action are not anticipated to affect groundwater resources. Construction operations would not reach depths that could affect groundwater resources. Therefore, no significant impacts would occur to groundwater resources as a result of implementation of the Proposed Action.

4.5.2.2 No-Action Alternative

Under the No-Action Alternative, proposed short-term construction activities would not occur. Baseline surface water and groundwater conditions would remain unchanged.

Therefore, no significant impacts to surface water or groundwater would occur as a result of implementation of the No-Action Alternative.

4.6 BIOLOGICAL RESOURCES

4.6.1 Approach to Analysis

Determination of the significance of potential impacts to biological resources is based on: 1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration of ecological ramifications. Impacts to biological resources are significant if species or habitats of concern are adversely affected over relatively large areas or disturbances cause reductions in population size or distribution of a species of concern.

This section analyzes the potential for impacts to biological resources, such as habitat loss, from implementation of the Proposed Action or alternative. Analysis of on-base impacts focuses on whether and how ground-disturbing activities may affect biological resources.

4.6.2 Impacts

4.6.2.1 Proposed Action

Vegetation and Forestry

Construction associated with the Proposed Action will require vegetation of previously disturbed areas. There are no sensitive vegetation in the area of the site.

Rare, Threatened, and Endangered Species

No Federally-listed endangered, threatened, or proposed species, or their designated critical habitat under the jurisdiction of the USFWS, occur at or in the vicinity of the Proposed Action (USFWS 2003). Furthermore, the Alabama Department of Conservation and Natural Resources concludes that the closest sensitive species to the Proposed Action is recorded as occurring 8.3 miles from the site of the Proposed Action (ADCNR 2002). Therefore, there would be no impacts to threatened or endangered species with implementation of the Proposed Action.

Wetlands

There are 29 wetlands, 6 streams and drainages, and 13 lakes and ponds delineated at MAFB (MAFB 2000). All of the wetlands occur within the 100-year floodplain primarily located along the low northern floodplain boundary of the base. No wetlands occur at or in the vicinity of the Proposed Action, therefore, no significant impacts would occur to wetlands as a result of implementation of the Proposed Action.

4.6.2.2 No-Action Alternative

Under the No-Action Alternative, construction activities associated with the Proposed Action would not occur. Baseline vegetation and forestry resources would remain unchanged. In addition, no wetlands or Federally-listed endangered, threatened, or proposed species, or their designated critical habitat under the jurisdiction of the USFWS, or state-designated sensitive species, occur at or in the vicinity of the Proposed Action. Therefore, no significant impacts to biological resources would occur as a result of implementation of the No-Action Alternative.

4.7 TRANSPORTATION AND CIRCULATION

4.7.1 Approach to Analysis

Impacts on transportation and circulation would be considered significant if the Proposed Action affected the safety and/or the capacity of roads at the installation and within the region. In addition, impacts would be considered significant if the Proposed Action increased the potential for traffic disruption or congestion along regional and local transportation corridors.

4.7.2 Impacts

4.7.2.1 Proposed Action

Construction Impacts

Proposed construction activities would require the delivery of construction equipment and materials to the installation. However, construction traffic would constitute a small portion of the total existing traffic volume in the region and at the installation. The majority of vehicles used for construction activities would be driven to the construction site and kept onsite for the duration of construction, resulting in only a small increase in vehicle trips. In addition, increases in traffic volumes associated with construction activities would be temporary. Upon completion of construction, no long-term impacts to off-base transportation systems would occur.

Implementation of proposed construction at the installation would result in minor, temporary impacts to on-base traffic circulation as a result of increased traffic associated with construction vehicles. However, these impacts would be short-term and would not have a significant impact on the installation's transportation network.

Operational Impacts

From an operational standpoint, the Proposed Action would result in beneficial impacts to vehicle circulation and safety in that the spectator traffic and parking would be easily routed away from congested areas. However, the increase in traffic levels would not significantly affect safety and/or the capacity of roads at the installation and within the region (MAFB 2004e). Therefore, no significant impacts to transportation and circulation would occur as a result of implementation of the Proposed Action.

4.7.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction activities would not occur. Baseline transportation and circulation conditions, as described in Section 3.7, would remain unchanged. Therefore, no significant impacts to transportation and circulation would occur as a result of implementation of the No-Action Alternative.

4.8 CULTURAL RESOURCES

4.8.1 Approach to Analysis

Cultural resources are subject to review under both Federal and state laws and regulations. Section 106 of the National Historic Preservation Act of 1966 empowers the Advisory Council on Historic Preservation to comment on Federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion on the NRHP. Once cultural resources have been identified, significance evaluation is the process by which resources are assessed relative to significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Only cultural resources determined to be significant (i.e., eligible for the NRHP) are protected under the National Historic Preservation Act.

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by: 1) physically altering, damaging, or destroying all or part of a resource; 2) altering characteristics of the surrounding environment that contribute to resource significance; 3) introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or 4) neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the type and location of the Proposed Action and by determining the exact locations of cultural resources that could be affected. Indirect impacts primarily result from the effects of project-induced population increases and the resultant need to develop new housing areas, utilities services, and other support functions necessary to accommodate population growth. These activities and facilities' subsequent use can disturb or destroy cultural resources.

4.8.2 Impacts

4.8.2.1 Proposed Action

The proposed construction would take place in an area previously disturbed by urban development. No archaeological sites or architectural resources are known to exist at or in the vicinity of the Proposed Action. Therefore, no significant impacts to cultural resources would occur as a result of implementation of the Proposed Action.

The installation's CRMP notes that, due to the nature of historic properties and the current methodological limitations of cultural resources surveys, all archaeological sites at MAFB and its associated lands may not have been discovered during prior surveys. Some properties may be discovered during the construction or implementation of an

activity that has been approved. The CRMP mandates that if archaeological sites are discovered during the construction or implementation of an activity, all work in the area of the suspected site must cease and the MAFB Historic Preservation Officer must be notified immediately by telephone for consultation and appropriate action (MAFB 1999).

4.8.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction activities would not occur. Baseline cultural resource conditions would remain unchanged. Therefore, no significant impacts on cultural resources would occur as a result of implementation of the No-Action Alternative.

4.9 SOCIOECONOMICS

4.9.1 Approach to Analysis

Significance of population and expenditure impacts are assessed in terms of their direct effects on the local economy and related effects on other socioeconomic resources within the region. Socioeconomic impacts would be considered significant if the Proposed Action resulted in a substantial shift in population trends, or notably affected regional employment, spending and earning patterns, or community resources.

4.9.2 Impacts

4.9.2.1 Proposed Action

The Proposed Action is not expected to have any significant impacts on the socioeconomic condition of the installation or community.

4.9.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction activities would not occur. Baseline socioeconomic conditions would remain unchanged. Therefore, no significant impacts to socioeconomic conditions would occur as a result of implementation of the No-Action Alternative.

4.10 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

4.10.1 Approach to Analysis

In order to comply with EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, ethnicity and poverty status in the vicinity of the Proposed Actions have been examined and compared to city, county, and state data to determine if any minority or low-income communities could potentially be disproportionately affected by implementation of the Proposed Actions or alternatives. Similarly, to comply with EO 13045, *Protection of Children From Environmental Health Risks and Safety Risks*, the locations where numbers of children may be proportionally high on and in the vicinity of the Proposed Actions was determined to ensure that environmental risks and safety risks to children are addressed.

Three criteria must be met for impacts to minority and low income communities or children to be considered significant. 1) There must be one or more populations within the ROI. 2) There must be adverse (or significant) impacts from the Proposed Actions. 3) The environmental justice populations within the ROI must bear a disproportionate burden of those adverse impacts. If any of these criteria are not met, then impacts with respect to environmental justice or protection of children would not be significant.

4.10.2 Impacts

4.10.2.1 Proposed Action

Under the Proposed Actions, construction activities would be limited to the proposed site shown in Figure 1-2. Analyses of resource areas conclude that populations (including minority and low-income populations) within and outside the installation would not be significantly impacted. Therefore, implementation of the Proposed Actions would not disproportionately impact minority or low-income populations.

Implementation of the Proposed Actions would not result in environmental health risks or safety risks to children, as no housing or facilities for children exist adjacent to or in the immediate vicinity of the Proposed Actions. Therefore, no significant impacts to children from health risks or safety risks would occur as a result of implementation of the Proposed Actions.

4.10.2.2 No-Action Alternative

Under the No-Action Alternative, proposed activities would not occur. Baseline conditions would remain unchanged. Therefore, no significant impacts to environmental justice conditions would occur, nor would children be disproportionately exposed to increased health or safety risks as a result of implementation of the No-Action Alternative.

4.11 HAZARDOUS MATERIALS AND WASTES

4.11.1 Approach to Analysis

Federal, state, and local laws regulate the storage, disposal, and transportation of hazardous materials and wastes. These laws have been established to protect human health and the environment from potential impacts. The significance of impacts associated with hazardous wastes and materials is based on the toxicity of the substance, transportation and storage risk, and the method of waste disposal. Impacts are considered significant if the storage, use, transportation, or disposal of these substances increases human health risks or environmental exposure.

4.11.2 Impacts

4.11.2.1 Proposed Action

The Proposed Actions is not expected to have an impact on the management of hazardous materials at MAFB. During the construction period, the construction contractor would be responsible for notifying the installation in advance of bringing any hazardous materials

on the installation. Furthermore, the construction contractor would be responsible for disposing of any hazardous materials used on the site during construction activities.

Solid waste would be managed in accordance with the MAFB Integrated Solid Waste Management Plan (MAFB 2003a). All non-hazardous waste would be collected and disposed of by licensed private contractors at the North Montgomery Municipal landfill.

There is only one IRP site within the proximity of the Proposed Action. There is a solvent plume of Perchloroethylene (PCE) in the surficial aquifer that covers a large area in the center of the base and is part of Operable Unit #1 (OU-1). Former Building 1449 is within the plume area. However, the groundwater level is approximately 27 feet bgs and should not present a problem in converting the site to a parade field. There is one monitoring well located near the site that is expected to be closed as soon as eight quarters of sampling have been performed (MAFB 2004f). This site is not expected to have a measurable impact on the Proposed Action site.

In order to minimize the threat of exposure to potentially contaminated soils at the site, if any soil contamination that is encountered as part of the Proposed Action would be properly segregated by the construction contractor and then sampled by representatives of the Environmental Section at MAFB. Sample results would determine whether soils can be reused on the site or require proper disposal off-site at a facility permitted to receive the soils pursuant to appropriate State of Alabama regulations. Furthermore, procedures to minimize dust during excavation and construction will be implemented on-site. Therefore, no significant impacts would occur as a result of implementing the Proposed Actions.

4.11.2.2 No-Action Alternative

Under the No-Action Alternative, no construction would occur at the site. Baseline hazardous material and waste conditions would remain unchanged and IRP sites in the vicinity of the project site would continue to be studied and remediated as appropriate under the IRP. Therefore, there would be no impacts from hazardous materials and wastes with implementation of the No-Action Alternative.

4.12 UTILITIES

4.12.1 Approach to Analysis

The assessment of impacts to utilities is based on comparing existing use and condition to proposed changes in these resources. The analysis compares current utility usage for applicable functions with anticipated future demands to determine potential impacts. Potential impacts to utilities may occur if a change in demand resulting from the Proposed Action significantly affects the ability of a utility provider to service existing customers. Facilities, such as landfills, may be impacted if they are unable to effectively accommodate additional demands resulting from a proposed activity.

4.12.2 Impacts

4.12.2.1 Proposed Action

Electricity

There are no daily limits imposed on MAFB for electrical consumption (MAFB 2004d). Furthermore, MAFB is a “Priority 1” customer for the Alabama Power Company, which ensures that the installation would receive electrical service in the event that peak demands limit the ability of Alabama Power to supply service to all its customers.

Natural Gas

There are no daily limits imposed on MAFB for natural gas consumption (MAFB 2004d).

Water

There are no daily limits imposed on MAFB for potable water consumption (MAFB 2004d).

Wastewater

Wastewater from MAFB is sent to the Towassa Wastewater Treatment Plant in the City of Montgomery. The plant has a capacity of 21 MGD yet receives an average of only 10 MGD (City of Montgomery 2004a). Given the existing excess operating capacity of the Towassa Wastewater Treatment Plant an increase in wastewater produced under the Proposed Actions would not likely adversely impact the Towassa Wastewater Treatment Plant.

Solid Waste Management

Solid waste generated at MAFB is either recycled or disposed of in the North Montgomery City Landfill located west of MAFB. As of 2004, the landfill had an estimated 19 years of remaining operating life (City of Montgomery 2004b). Given the expected lifespan of 19 years for the landfill, the facility has ample capacity to support the minor increase in overall solid waste levels generated by the proposed construction activities. Therefore the Proposed Actions will not have any significant impact on utilities. Baseline conditions for utility resources would remain unchanged.

4.12.2.2 No-Action Alternative

Under the No-Action Alternative, proposed construction activities would not occur. Baseline conditions for utility resources would remain unchanged. Therefore, no significant impacts to utilities would occur as a result of implementation of the No-Action Alternative.

5 CUMULATIVE EFFECTS

This section provides: 1) a definition of cumulative effects; 2) a description of past, present, and reasonably foreseeable actions relevant to cumulative effects; and 3) a summary of cumulative effects potentially resulting from interaction of the Proposed Actions with other actions.

5.1 DEFINITION OF CUMULATIVE EFFECTS

Council on Environmental Quality regulations stipulate that potential environmental impacts resulting from cumulative impacts should be considered in an EA. Cumulative impacts are defined as “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* (CEQ 1997) affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the Proposed Actions. The scope must consider geographic and temporal overlaps among the Proposed Actions and other actions. It must also evaluate the nature of interactions among these actions. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, currently under construction, recently completed, or anticipated to be implemented in the near future is necessary.

To identify cumulative effects the analysis needs to address three fundamental questions:

1. Does a relationship exist such that affected resource areas of the Proposed Actions might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
2. If one or more of the affected resource areas of the Proposed Actions and another action could be expected to interact, would the Proposed Actions affect or be affected by impacts of the other action?
3. If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Actions is considered alone?

5.2 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

Several projects are planned at MAFB for FY 2005. MAFB maintains a list of all proposed projects for FY 2005 which include the FY 2005 operations and maintenance (O&M) program, work orders and projects on record (per discipline), the proposed housing program, and the Air Force approved military construction (MILCON) program for MAFB. However, currently the proposed projects for FY 2005 include 3 buildings proposed for demolition, upgrades and repairs to military family housing, and 63 O&M projects which include various base wide repairs and upgrades, and 5 MILCON projects

that are considered “out year” projects that would likely not be realized until 2006 through 2009.

5.3 CUMULATIVE EFFECTS ANALYSIS

The following discussion describes how the impacts of other past, present, and reasonably foreseeable actions might be affected by those resulting from the Proposed Actions, and whether such relationships would result in potentially significant impacts not identified when the Proposed Actions is considered alone.

Temporary repair and construction projects are on-going at the installation. Temporary construction traffic associated with these projects would occur throughout the base although no long-term traffic impacts are expected since the projects would be spread throughout the base and would occur over the fiscal year.

Potential air quality impacts of each project are minor and would include only slight increases in levels of air pollution during the construction phase. However, air pollutant emissions for all projects are well below *de minimis* levels and would not represent significant cumulative impacts even if all construction were to occur in one year rather than spread out over several years.

The noise environment at the installation would continue to be dominated by aircraft and vehicular traffic; no cumulative construction noise impacts would result. No other impacts to common resources for any of the projects have been identified. Therefore, the effects of all identified projects would not result in significant cumulative impacts.

6 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Analysis of the resource areas contained in this EA concludes that no unavoidable adverse environmental impacts would result from the Proposed Actions or No-Action Alternative.

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7 COMPATIBILITY OF THE PROPOSED ACTION AND ALTERNATIVE WITH THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL LAND USE PLANS, POLICIES, AND CONTROLS

The Proposed Actions would be appropriately located within the Academic Area land use zone of MAFB and would not adversely impact the current or long-range planning goals influencing the local and regional communities. Furthermore, the Proposed Actions would fully comply with applicable Federal, state, and local plans, policies, and controls with respect to land use. In particular, the Proposed Actions would be required to adhere to the requirements of the State of Alabama's erosion and sedimentation control regulations throughout the construction process. In addition, land disturbing activities greater than one acre are required to obtain a land disturbing permit from ADEM.

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8 RELATIONSHIP BETWEEN THE SHORT-TERM USE OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

NEPA requires that environmental documentation include a statement on the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. Overall, the long-term productivity of the environment would be maintained with the implementation of the Proposed Actions or the No-Action Alternative.

The Proposed Actions would involve some minor short-term impacts associated with construction of the new Parade Field. All other impacts to the built and natural environment are deemed minimal. Therefore, the long-term productivity of the environment would not be appreciably affected by the implementation of the Proposed Action.

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9 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA also requires that an environmental analysis include identification of “any irreversible and irretrievable commitments of resources which would be involved in the Proposed Actions should it be implemented.” Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects thereof on consumption or destruction of a resource that could not be replaced in a reasonable period of time. The construction on the proposed Parade Field will not result in any direct or indirect commitment of irreversible resources other than those associated with consumption of utilities.

Expenditures of electrical energy and other resources can be considered irreversible and, therefore, irretrievably committed to the proposed project.

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10 SPECIAL PROCEDURES

Impact evaluations presented in this EA have determined that no significant environmental impacts are expected to occur as a result of implementation of the Proposed Action or No-Action Alternative at MAFB. This determination is based upon a thorough review and analysis of existing environmental and human resource information, the application of accepted modeling methodologies, and coordination with knowledgeable personnel from the 42 ABW and local, state, and Federal agencies.

There would be no significant environmental and human resources impacts for all resource areas as a result of implementation of the Proposed Actions. Special procedures relevant to stormwater discharge (described in Section 4.5, Water Resources) and potential contamination (described in Section 4.11, Hazardous Materials and Wastes) are summarized below.

The Proposed Actions would disturb greater than one acre of land at MAFB. Therefore, the contractor would contact the ADEM Water Division and file a Notice of Registration for NPDES General Permit coverage. In addition, a Construction Best Management Practices Plan would be developed and implemented on-site for the duration of the construction period.

Review of documents describing the investigations and actions completed to date for the ST-011 site indicates that there is a solvent plume of Perchloroethylene (PCE) in the surficial aquifer that is part of Operable Unit #1 (OU-1) that covers a large area of the base. Former Building 1449 is within the plume area. However, the groundwater level is approximately 27 feet below ground surface (bgs). There is one monitoring well located near the Proposed Action site that is expected to be closed as soon as eight quarters of sampling have been performed (MAFB 2004f). In order to minimize the threat of exposure to potentially contaminated soils at the site, any soil contamination encountered as part of the Proposed Action would be properly segregated by the construction contractor and then sampled by representatives of the Environmental Section at MAFB. Sample results would determine whether soils can be reused on the site or require proper disposal off-site at a facility permitted to receive the soils pursuant to appropriate State of Alabama regulations. Furthermore, procedures to minimize dust during excavation and construction will be implemented on-site. Therefore, no significant impacts would occur as a result of implementing the Proposed Actions.

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12 LIST OF PREPARERS

This report was prepared for, and under the direction of, Maxwell Air Force Base by Lanier Environmental Consultants, Inc. (LEC). Members of the professional staff are listed below:

Janet Lanier

Registered Environmental Manager

Keith Lowry, P.E.

Project Engineer

James K. Lee

Environmental Technician

Jonathan B. Mehaffey

Environmental Scientist

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Appendix A
Photographs of Example Parade Field at Lackland AFB, TX



Photograph 1: Example of Front View of Reviewing Stand



Photograph 2: Example of Side View of the Reviewing Stand



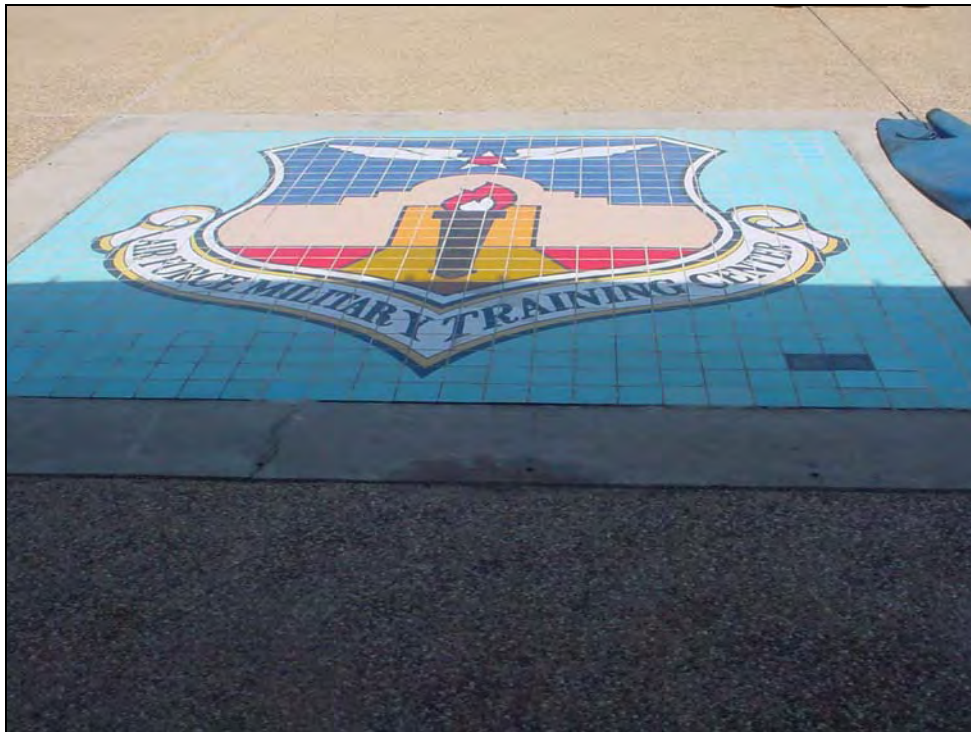
Photograph 3: Example of Side View of the Reviewing Stand



Photograph 4: Example of Front view of the Reviewing Stand



Photograph 5: Example of Front View of Bleachers



Photograph 6: Detailed Example of the Tile Mosaic



Photograph 7: Example of the Restrooms

Appendix B

IICEP Correspondence

LEC Maxwell Support Division

October 19, 2004

Attention: Bill Tucker, Executive Director
Central Alabama Regional and Planning Development Commission
125 Washington Avenue
Third Floor
Montgomery, AL 36104

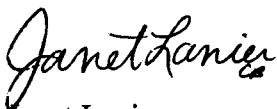
*Re: Construct OTS Parade Field
Maxwell AFB/Gunter Annex, Alabama*

Dear Sir or Madam:

Lanier Environmental Consultants, Inc. (LEC) has been contracted to perform an environmental assessment for Maxwell Air Force Base in connection with the above referenced project. The proposed action includes construction of a new Officer Training School (OTS) Parade Field to correct various inadequacies with the existing temporary parade field. The construction will occur on a previously disturbed vacant parcel on base. I am enclosing a regional vicinity map as well as a site map for your convenience. Please provide any environmental comments or concerns as soon as possible to the letterhead address.

If you need additional information, please contact me at 334-396-4004 or at Maxwell at 334-953-5757. Thank you for your prompt assistance in this matter.

Sincerely,



Janet Lanier
Registered Environmental Manager

JLL:cab
Enclosures

400 Cannon Street, Building 1060
Maxwell AFB, AL 36112
Tel.: 334-953-5260 • 334-396-4004

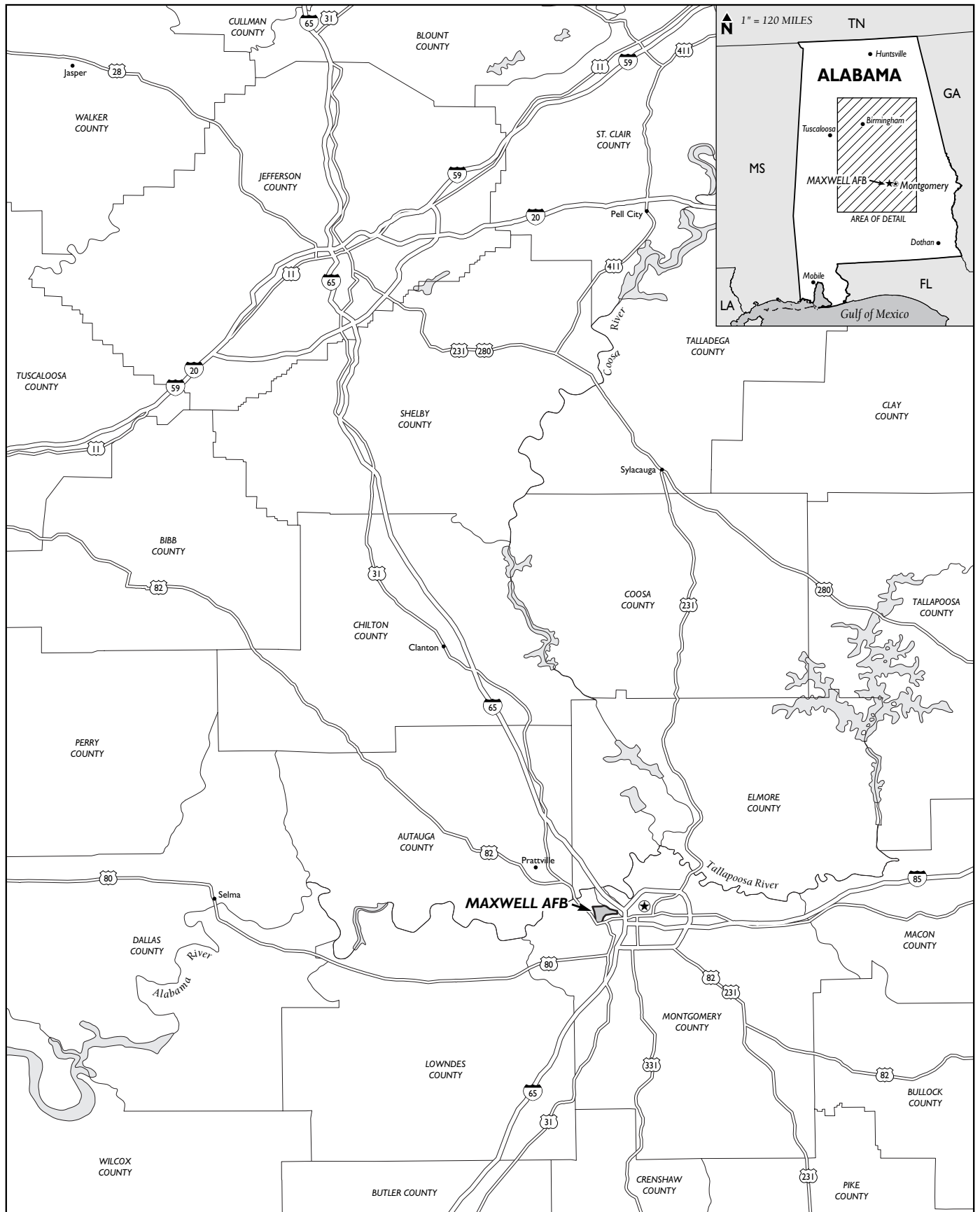


Figure 1-1
Maxwell Air Force Base, Alabama



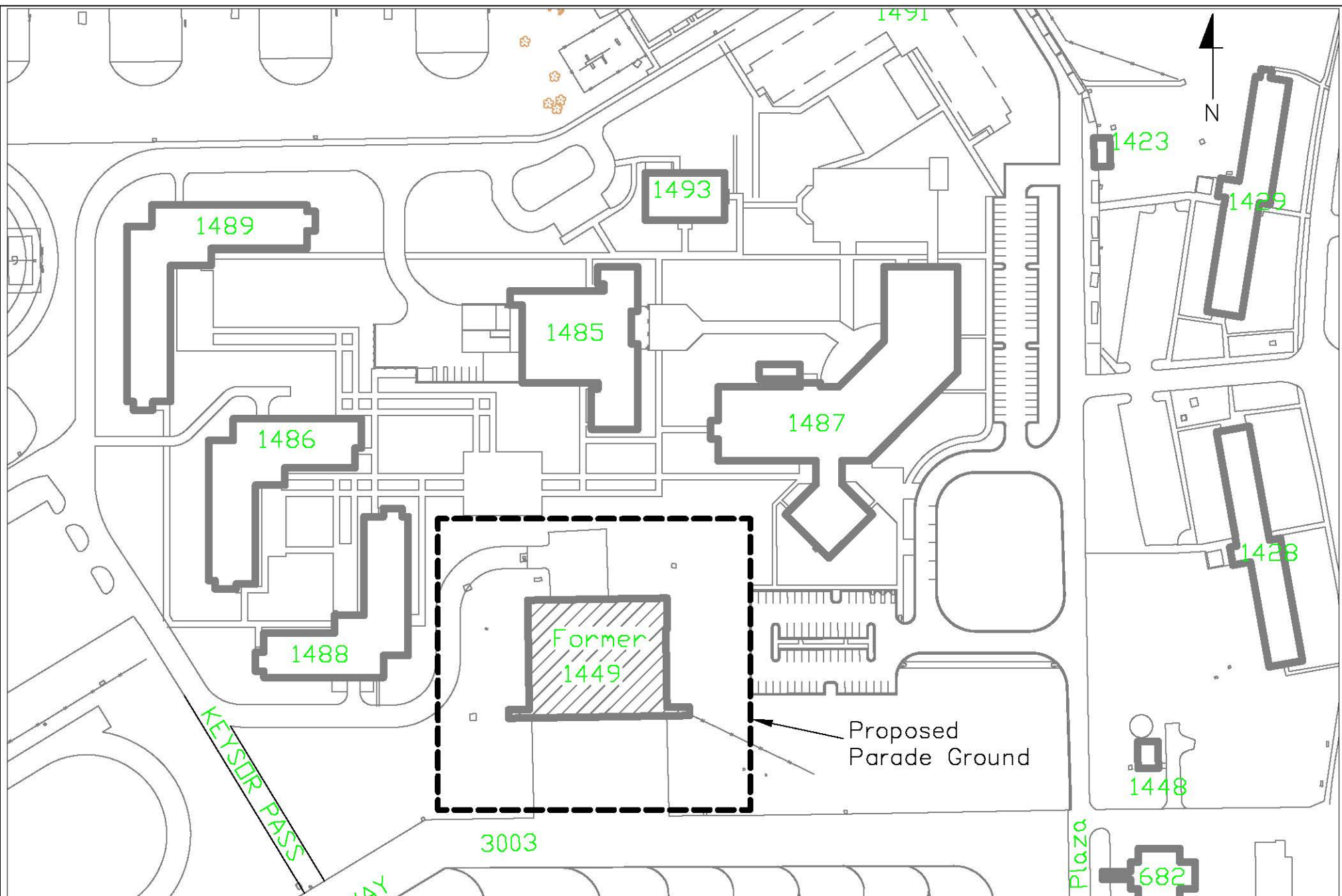


Figure 1-2
Proposed Parade Ground Location



CARPDC

CENTRAL ALABAMA REGIONAL PLANNING
AND DEVELOPMENT COMMISSION

AUTAUGA, ELMORE & MONTGOMERY COUNTIES

Frank R. Houston
Chairman

Bill J. Tucker
Executive Director

October 21, 2004

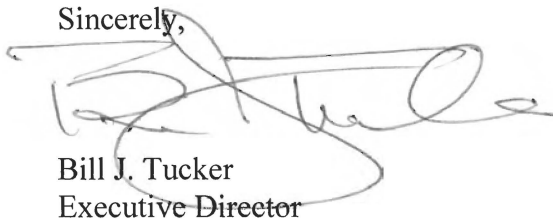
Mrs. Janet Lanier
C/O LEC Maxwell Support Division
400 Cannon Street, Building 1060
Maxwell AFB, Alabama 36112

Re: Construct OTS Parade Field
Maxwell AFB/Gunter Annex, Alabama

Dear Mrs. Lanier:

In response to your letter of October 19, 2004 requesting environmental comments or concerns on the above stated project, be advised that this office has no issue with the proposed construction. The new Officer Training School (OTS) Parade Field is a most appropriate use of this site. Therefore, CARPDC and I are in full concurrence with such construction. Should additional review be required; feel free to call on me anytime.

Sincerely,



Bill J. Tucker
Executive Director



ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

POST OFFICE BOX 301463 36130-1463 ♦ 1400 COLISEUM BLVD. 36110-2059

MONTGOMERY, ALABAMA

WWW.ADEM.STATE.AL.US

(334) 271-7700

JAMES W. WARR
DIRECTOR

BOB RILEY
GOVERNOR

April 21, 2003

Ms. Janet Lanier
MSD/CEV Manager
400 Cannon Street, Building 1060
Maxwell AFB, AL 36112

Facsimiles: (334)

Administration: 271-7950
General Counsel: 394-4332
Air: 279-3044
Land: 279-3050
Water: 279-3051
Groundwater: 270-5631
Field Operations: 272-8131
Laboratory: 277-6718
Mining: 394-4326
Education/Outreach: 394-4383

RE: Status of Maxwell Air Force Base and Gunter Annex

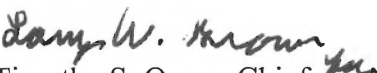
Dear Ms. Lanier:

The Department has reviewed the potential emissions inventory submitted for Maxwell Air Force Base and Gunter Annex. Based on the information received, the Department has determined that Maxwell Air Force Base and Gunter Annex are true minor sources. Therefore, submission of an annual emissions inventory to the Department will not be required at this time.

In the event that the facilities wish to install additional emission sources or replace existing emission sources, please be advised that the appropriate Air Permit applications must be submitted to the Department prior to beginning construction.

If you have questions concerning this matter, please contact Jennifer McDevitt at (334) 207-5650 in Montgomery.

Sincerely,


Timothy S. Owen, Chief
Energy Branch
Air Division





BOB RILEY
GOVERNOR

M. BARNETT LAWLEY
COMMISSIONER

RICHARD C. LILES
OPERATIONS DIRECTOR

STATE OF ALABAMA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
64 NORTH UNION STREET
MONTGOMERY, AL 36130

JAMES H. GRIGGS, DIRECTOR
GREGORY M. LEIN, ASSISTANT DIRECTOR
STATE LANDS DIVISION

TELEPHONE (334) 242-3484
FAX NO. (334) 242-0999

February 26, 2004

Ms. Janet Lanier
LEC Maxwell Support Division
400 Cannon Street, Building 1060
Maxwell AFB, AL 36112

RE: Sensitive Species Information request
Construct New Bowling Center Maxwell AFB/Gunter Annex

Dear Ms. Janet Lanier:

The Natural Heritage Section office received your letter dated February 2, 2004 addressed to Sir and Madam on February 25, 2004 and has since developed the following information pertaining to state protected, federally listed threatened and endangered species, and species that we believe to be sensitive to environmental perturbations. I have enclosed a list of sensitive species which the Natural Heritage Section Database or the U.S. Fish and Wildlife Service have indicated occur or have occurred in Montgomery County. Additionally, I have listed some potentially helpful and informative web sites at the end of this letter.

The Natural Heritage Section database contains numerous records of sensitive species in Montgomery County. Our database indicates the area of interest has had no biological survey performed at the delineated location, by our staff or any individuals referenced in our database. Therefore we can make no accurate assessment to the past or current inhabitancy of any federal or state protected species at that location. A biological survey conducted by trained professionals is the most accurate way to ensure that no sensitive species are jeopardized by the development activities. The closest sensitive species is recorded in our database as occurring approximately 3.6 miles from the subject site. This species occurs in small to medium rivers with expanses of clean sand and gravel. Usually in water more than 60 cm deep with strong current. It is apparently vulnerable to siltation and other forms of pollution as well as water flow modifications (dams, etc.). Localized populations are vulnerable to extirpation from single destructive events such as spills of toxins. Relatively tolerant of nondestructive intrusion, though heavy recreational use of habitat potentially could be excessively disruptive.*

I hope this information will be useful to you. The provided information is to help you in fulfilling your necessary legal obligations. The information does not suggest that protected species are not at this location. The specific location of a sensitive species is considered



Ms. Janet Lanier
2/26/2004
Page 2

confidential information by a State Lands Division Regulation and can be released only to individuals who enter into a confidentiality and indemnity contract with the State Lands Division.

The Natural Heritage Section provides this information as a service to the people of Alabama. The NHS acts as a clearing house for species distribution data. We happily accept any information environmental researchers are willing to donate. Sensitive species exact locations are kept confidential. If you would be willing to donate any information to this database, we will be better able to assist all individuals interested in environmental compliance.

Sincerely,



Jo Lewis
Database Manager

Enclosures

*Paraphrased Information from NatureServe. 2003. NatureServe Explorer: An online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: February 19, 2004).

Potentially helpful web sites

Information about federally listed species

<http://www.pfmt.org/wildlife/endangered/>

<http://www.al.nrcs.usda.gov/FOTG/alTE.html>

http://ecos.fws.gov/webpage/webpage_usa_lists.html?#AL

<http://southeast.fws.gov/daphne/specieslst.htm>

<http://www.natureserve.org/explorer/>

Non-game species regulation starts on page 75

http://www.dcnr.state.al.us/agfd/2002-2003_regbook.doc

ALABAMA'S FEDERALLY LISTED AND STATE PROTECTED SPECIES (BY COUNTY)

This list is a combination of the June 2002 U.S.F.W. Service (Daphne field Office) federally listed species by county list and the Alabama State Lands Division's Natural Heritage Section Database of species distributions data. This list is continually being updated, and, therefore, it may be incomplete or inaccurate and is provided strictly for informational purposes. It does not constitute any form of Section 7 consultation. We recommend that the U.S.F.W. Service Field Office in Daphne be contacted for Section 7 consultations. Site specific information can be provided by the Alabama State Lands Division's Natural Heritage Section and/or the U.S.F.W. Service (Daphne field Office) prior to project activities. To be certain of occurrence, surveys should be conducted by qualified biologists to determine if a sensitive species occurs within a project area. Species not listed for a given county does not imply that they do not occur there, only that their occurrence there is as yet unrecorded by these two agencies.

Key to codes on list: (P) - Historical Record and/ or Possible Occurrence in the County
 Federal E - Endangered C - Candidate Species
 Federal T - Threatened Experimental - Nonessential Experimental Populations occur in

Montgomery

Protection Status	Common name	Scientific Name	State Regulation Applicable
Endangered	Wood Stork	<i>Mycteria americana</i>	220-2-.92 (1) (d)
Threatened	Eastern Indigo Snake	<i>Drymarchon corais couperi</i>	220-2-.92 (1) (c)
State Protected	Osprey	<i>Pandion haliaetus</i>	220-2-.92 (1) (d)
State Protected	Crystal Darter	<i>Crystallaria asprella</i>	220-2-.92 (1) (a)
State Protected	Alabama Map Turtle	<i>Graptemys pulchra</i>	220-2-.92 (1) (c)

ALABAMA'S FEDERALLY LISTED AND STATE PROTECTED SPECIES (BY COUNTY)

Notes:

- Bald eagle *Haliaeetus leucocephalus*, red-cockaded woodpecker *Picoides borealis* and the American peregrine falcon (*Falco peregrinus anatum*) may occur in any county, if habitat exists.
- Wood stork / July - October
- Bald eagle / Wintering birds possible in areas with reservoirs.
- Sea turtles / Only loggerhead is potential nester, the rest are in coastal waters.
- Black bear *Ursus americanus* sp. - known to exist in Mobile County, but not listed.
- Gulf moccasin shell *Mediondus penicillatus*, oval pigtoe *Pleurobema pyriforme*, Chipola slabshell *Elliptio chipolaensis*, and purple bankclimber *Elliptioideus sloatianus*, are freshwater mussels of the family Unionidae found only in eastern Gulf Slope streams draining the Apalachicola Region, defined as streams from the Escambia to the Suwannee river systems, and occurring in southeast Alabama, southwest Georgia, and north Florida. All are listed as "Endangered".
- Fanshell *Cyprogenia stegaria*, Oyster mussel *Epioblasma capsaeformis*, Catspaw (purple cat's paw pearlymussel) *Epioblasma obliquata obliquata*, are historically known to be found in the Tennessee River system and drainage.
- Gentian pinkroot *Spigelia gentianoides*, has been historically found along the Alabama-Florida border.
- West Indian Manatee *Trichechus manatus*, have been known to move north along the gulf coast west to Louisiana.
- Experimental * Species is protected throughout its range including Colbert and Lauderdale counties except for the nonessential experimental population. Endangered and Threatened Wildlife and Plants; Establishment of Nonessential Experimental Population Status for 16 Freshwater Mussels and 1 Freshwater Snail in the Free-Flowing Reach of the Tennessee River below the Wilson Dam, Colbert and Lauderdale Counties, Alabama. [Federal Register; June 14, 2001 (Volume 66, Number 115)] RIN 1018-AE92
- ** (S/A) Similarity of Appearance to a threatened Taxon.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
P. O. Drawer 1190
Daphne, Alabama 36526

IN REPLY REFER TO:
03-0472

February 14, 2003



Ms. Janet Lanier
Lanier Environmental Consultants Inc.
400 Cannon Street, Building 1060
Maxwell AFB, AL 36112

Dear Ms. Lanier:

We are responding to your letter, dated January 29, 2003, requesting comments on the Natural Community and Rare Plant and Animal Survey performed by you for Maxwell AFB, Alabama. We have reviewed the information you enclosed and are providing the following comments in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.) and the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

We applaud the effort by the Air Force to keep the inventory of natural resources on Maxwell-Gunter AFB updated to reflect changes in the landscape. Although federally listed species do not currently exist on the base, the potential for migratory birds to use the different habitats on base for forage, loafing or nesting is apparent and should be considered during NEPA actions. Direct harm to nesting sites or migratory birds is a violation of the Migratory Bird Treaty Act and should be avoided.

Your recommendations for removal or control of non-native plants is in line with the Service's policy on the eradication and control of invasive plants. After the invasive plants become established without the natural controls found in their natural landscape, they are almost impossible to eradicate but may be controlled with constant attention as you have outlined in this document. The Natural Resources Conservation Service (NRCS) is a great source for the latest control techniques and should be consulted regarding invasive plant species.

We appreciate the opportunity to review and comment on this latest survey and look forward to working with the Air Force on future projects. Early coordination is the key for avoiding unnecessary impacts to the nations trust resources and project delays that could impact the nations defense. If you have any questions or need additional information, please contact Mr. Bruce Porter at (251) 441-5864 or visit our website <http://daphne.fws.gov>. Please refer to the reference number located at the top of this letter.

Sincerely,

Larry E. Goldman
Field Supervisor